B.C. Hydro
Kitimat - Skeena
287 kV Transmission Line

Public Consultation Report

Presented to: B.C. Hydro

Presented by: Professional Environmental Recreation Consultants Ltd.

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Introduction

In September 1989, B.C. Hydro retained the services of Professional Environmental Recreation Consultants Ltd. (PERC), to assist in implementing a public consultation program for a proposed 287 kV transmission line from Alcan's Kitimat Substation, south west of Kitimat, to B.C. Hydro's Skeena Substation south of Terrace. The consultation program, as outlined in this report, was carried out over a nine month period from September 1989 to May 1990, during which time, PERC worked closely with members of B.C. Hydro's project team and with the public to identify ideas and concerns related to the project.

To carry out the planning studies and the public consultation program, B.C. Hydro established a 'project team' comprised of Hydro personnel and consultants. The public consultation consultant was an integral part of the project team, attending all team meetings and facilitating meetings with the public as part of the consultation process. Throughout the remainder of this report, reference to the project team is meant to include the consultants and reflects the close working relationship with B.C. Hydro.

This report provides a detailed account of the public consultation process and the comments and concerns received from the public. It is presented in two sections. The first section provides a detailed discussion of the methodology, the public issues and concerns and an analysis of the effectiveness of the consultation program. The second section of the report contains the Appendices which include background public information materials, newspaper ads, and notes of meetings.

It should be noted that, although the formal consultation process is essentially complete, B.C. Hydro is continuing to work with the public to address comments and questions from correspondence and Hydro's telephone information line.

Public Consultation Objectives

At the outset of the public consultation program, the project team established the following set of objectives to provide a framework for each step of the program.

The objectives of the public consultation program are to:

1) provide as much information as is reasonably possible to the general public and interested individuals affected by the project;
2) keep the public fully aware of the planning and decision making process;
3) identify specific issues through direct liaison with the general public and interest groups;
4) develop and nurture a strong working relationship with the communities, interest groups and affected individuals;
5) identify, within the context of the consultation program, potential negative impacts of the project and to explore strategies for minimizing them;
6) identify the potential benefits inherent in the project and explore strategies for maximizing them;
7) document the public consultation process for future reference, evaluation, monitoring and the regulatory application.

During the consultation program, these objectives were refined to be more easily presented to the public as follows:

1) to provide as much information as is reasonably possible about the project to interested parties;
2) to incorporate ideas and concerns from interested parties into the planning process;
3) to report back to the general public about the input received and how that input has been used in the planning process.

PERC was responsible for facilitating the focus of the consultation program to meet these objectives in cooperation with the Project Team.

Assumptions

To guide the public consultation program, a number of assumptions were made at the outset of the process. These are outlined below:

- project information and notices were to be made in the English language. This assumption appeared to be correct since no complaints were received and no inquiries were made in other languages;

- the public consultation program would be proactive and progressive in that the Consultant was responsible for taking the initiative to contact and participate with B.C. Hydro in meetings with the public, and to synthesize public concerns into issues that could be addressed by the project team;
- the project rationale and general description would not change significantly to cause the project team to reprint public information or to re-initiate steps in the program once it was well underway;
- general route alternatives would focus on the east and west sides of the Kitimat Valley although within each 'route', options would be identified and studied for different transmission line alignments and tower designs;
- the rationale for the transmission line was based on the need to transmit electricity to be purchased from the Aluminum Company of Canada (Alcan) into the B.C. Hydro system to meet domestic electricity needs. Although questions about exporting electricity were anticipated by the project team and raised by the public, at no time was the project presented or justified on the basis of export;
- the 1989 B.C. Hydro Twenty Year Resource Plan provided a framework for the project. A copy of the "Introduction to the Twenty Year Resource Plan (April, 1989)" was included in the information kits made available to the public.

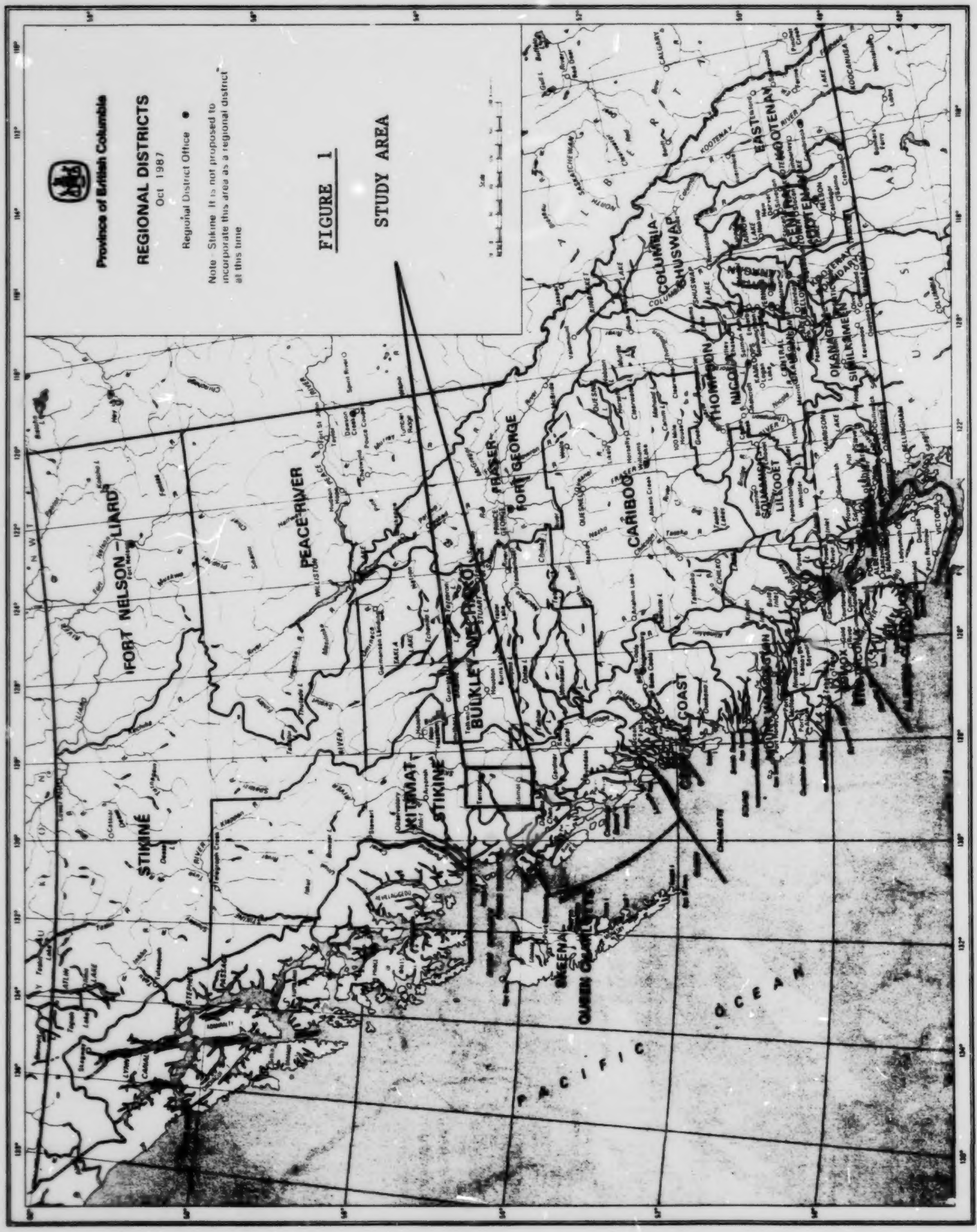
Study Area

The public consultation program focused primarily on the Kitimat Valley area, including the City of Terrace and the District of Kitimat. The study area was defined based on the scope and nature of the project, and the expressed interest by community groups, native bands and local and regional governments. This became the primary area for distribution of project information, interest group meetings and public meetings.

Although the vast majority of interest came from residents within the Kitimat Valley area, the program remained flexible and there was no attempt to limit the public's involvement in the program or the project inquiries. For example, interest from the Port Simpson Band led to a meeting with the Tsimshian Tribal Council in Prince Rupert in February 1990.

A map showing the primary Study Area is presented in Figure 1.

Figure 1 - Study Area


Province of British Columbia
REGIONAL DISTRICTS
Oct 1987
Regional District Office ●
Note: Stikine. It is not proposed to incorporate this area as a regional district at this time
FIGURE 1
STUDY AREA
FORT NELSON - LIARD
PEACE RIVER
STIKINE
KITIMAT - STIKINE
BULKLEY - NECHAKO
FRASER - FORT GEORGE
CARIBOO
CENTRAL COAST
COLUMBIA - SHUSWAP
THOMPSON - NICOLA
EAST KOOTENAY
CENTRAL KOOTENAY
KOOTENAY BOUNDARY
OKANAGAN - SIMILKAMEEN
SQUAMISH - LILLOOET
SKEENA
QUEEN CHARLOTTE
PACIFIC OCEAN

Methodology

For the purpose of this report, the public consultation program can be divided into three stages, namely:

Stage I - Project Notification and Public Information

- this continued throughout the consultation process, and members of the public had access to information materials through Hydro's toll free number, local offices and public libraries in Terrace and Kitimat during all stages of the program. Access to information and response by B.C. Hydro to questions is expected to continue through to construction completion if the project proceeds.

Stage II - Public Consultation

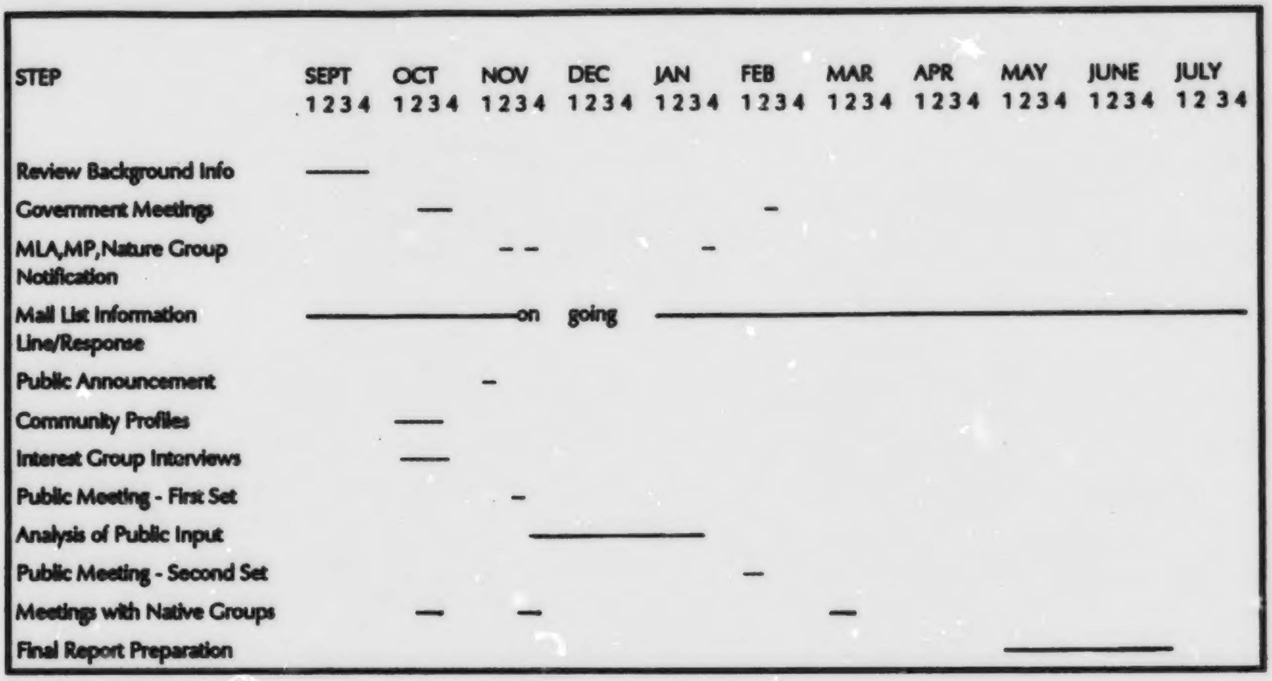
- included discussions with local and regional governments, environmental and special interest groups and the general public.

Stage III - Documentation and Monitoring

- included documentation of public ideas and concerns, suggestions for a follow up monitoring program and preparing the public consultation report.

Each of these stages contained a series of steps which are summarized on the implementation schedule shown in Figure 2. Each stage of the process is presented in the following discussion.

Figure 2 - Public Consultation Steps 1989/90



Stage I - Project Notification and Public Information

The preparation of information materials was designed to inform the public, and to respond to information inquiries and requests. This included the following steps:

1) Review of Background Information

At the outset of the project the Consultant reviewed all background information which had been assembled by B.C. Hydro to ensure a thorough understanding of the project. This included the Guidelines for the Energy Project Review Process, B.C. Hydro's Twenty Year Resource Plan, map mosaics, air photos, geographic information on the study area, and general information pertaining to Hydro's long range plans and policies. Reference documents are listed in Appendix B.

Members of the project team toured the project area by helicopter on November 21, 1989. The helicopter flight provided an overview of the Kitimat Valley area including the existing transmission line corridor from B.C. Hydro's Skeena Substation to Kitimat Substation, and the proposed corridor alternative which runs in a north - south direction along the west side of the Kitimat Valley from Kitimat Substation to Skeena Substation. The flight lasted for approximately one hour and it allowed the Consultant to become familiar with the route and potential areas of concern. Specifically, it provided:

- an aerial perspective of the existing transmission line corridor (Route A), its width, important environmental features, and general clearing that could be required;
- an aerial perspective of the proposed Route B along the west side of the valley;
- an identification of where placement of the line on either route could present potential problems, for example at river crossings on the Kitimat River, Wedeene and Little Wedeene, potential slope instability south of the existing line near Kitimat Substation and the potential impact of the line crossing the Kitimat Gun Club site.

2) Initial Meetings with Local and Regional Governments

Prior to presenting the project in the public forum members of the project team met with local and regional governments in communities affected by the project. The purpose of these meetings was to:

1) inform local and regional governments about the project and the consultation process; and,
2) to obtain feedback on potential questions and concerns, on special interest groups that should be contacted, and on the consultation process.

These meetings took place on October 16, 1989, and included the Regional District of Kitimat - Stikine, City of Terrace, and the District of Kitimat.

At the meetings members of the project team described the project, its rationale and schedule, and the proposed public consultation program. An information handout was provided to those attending the meeting, a copy of which is presented in Appendix A.

Local and regional government representatives, including elected officials and senior staff, were then asked to provide input on the project and the consultation process. This provided the project team with some indication of the potential issues that could arise during the public consultation program. For example, the two municipal governments supported separate meetings in Terrace and Kitimat. Potential issues included loss of the forest resource base, fisheries impacts, creating another utility corridor in the valley and electricity export. Government officials also provided names of individuals and interest groups that should be contacted because of their interest in the project. These groups were subsequently included in the interest group meetings. Notes of these and other meetings are presented in summary form in Appendix C.

B.C. Hydro staff in Terrace and Kitimat were briefed on the project on October 16, 1989 and October 17, 1989. This served to update staff on the project status to enable them to respond to public inquiries. It was also felt that Hydro employees would be aware of local issues and concerns because they work and live in the project area. Potential concerns identified at these meetings included impact to environmental resources, electricity export, and potential public concerns about the Alcan Kemano Completion Project and its impact on the Nechako watershed.

The information from these meetings was used to help identify potential public interest in the project and to help organize public meetings.

3) Notification to the MLA, MPs and Governments

As part of the consultation program, B.C. Hydro kept local and regional governments and provincial and federal politicians representing those communities in the study area informed about the project. This occurred through meetings, and correspondence (Appendix D).

An initial meeting with the MLA for Kitimat Stikine, Dave Parker, occured on November 21, 1989, to outline the project and to receive comments. The MLA expressed a specific concern about minimizing the potential impact to the forest resources in the area. Letters were sent to City Councils and the Regional District on January 26, 1990, updating them on the status of the project and the public meetings planned for February 05 and February 06, 1990. A project update letter was also sent to MPs, the MLA and local and regional governments on July 25, 1990. Copies of these letters are presented in Appendix D

4) Mail List and Telephone Information line

In order to ensure that interested parties were kept well informed and to provide a central information source, a mail list was developed. The mail list initially included government officials, interest groups and native groups. However, the list was continually updated throughout the consultation process as people signed in at meetings, filled out forms distributed as part of the newsletter or called requesting information. Hydro's existing toll free telephone information line was also identified so that anyone who had a specific concern or required information could contact B.C. Hydro directly. The information line is manned during business hours and an answering machine is on after business hours. A total of 17 public information inquiries were logged and all of these inquiries have received responses.

A summary of the public information inquiries is presented in Appendix E.

5) Public Announcement

The proposed project was formally announced on November 08, 1989, by means of a press release distributed to the local and provincial media (Appendix F). This was followed by an advertisement for the public meetings which also provided a detailed description and rationale for the project. The advertisement was placed in the three local newspapers - the Kitimat Northern Sentinel, the Terrace Kitimat News Advertiser and the Terrace Review. The combined circulation of these papers is 18,150, while the number of private households in the Kitimat - Terrace area including Subdivision C is 9,195 or just over 50% of the circulation.

The press release combined with the radio and newspaper ads and the interest group meetings should have created sufficient awareness and interest about the project to allow any interested person to participate in the public meetings or to contact B.C. Hydro for further information.

6) Community Profile

A summary profile of the study area was developed to familiarize the project team with the study area. Base information was collected on the geographic setting, present and future populations, and social and economic characteristics of the City of Terrace, the District of Kitimat and the Regional District. The profile was later combined with the results of the interest group meetings to provide each project team member with an informative, yet succinct profile of the study area prior to the public meetings. This information was, however, not designed to duplicate the role of other Consultants retained to study the social and economic characteristics of the region. The study area profile is presented in Appendix G.

7) Project CPCN Application

As part of the preparation of the Application to the B.C. Utilities Commission for a Certificate of Public Convenience and Necessity, the Consultation Consultant participated in project team meetings to provide support information to the Application. Specifically, the Consultant's role was to describe the methodology for the public consultation program, the results of which will be incorporated into the Application by B.C. Hydro.

8) Information on the Health Effects of Transmission Lines

In anticipation of the concern about electric and magnetic field effects (EMF), an information paper on electric and magnetic field effects was distributed to the public at the meetings. However, EMF was not identified as an important concern by those attending the meetings, possibly because each corridor option is well away from major residential areas.

At the second set of public meetings, one individual did request additional information about the effect of EMF on wildlife. This person was directed to research and reference material that had been placed in public libraries in Terrace and Kitimat at the beginning of the public consultation program. This information included publications by the Ontario Department of Health, Bonneyville Power Administration, New York State Health Commission, B.C. Utilities Commission Inquiry Report, B.C. Hydro's submission to the B.C. Utilities Commission, and a comprehensive list of reference material.

9) Project Information at Meetings

To present the project to the public, an information kit (Appendix A) was prepared by the project team. This included:

- a two page written description and rationale for the project, with cross sections of the proposed corridor as it related to Routes A and B;
- the "Introduction to the Twenty Year Resource Plan;
- EMF information paper;
- information on the objectives of the public consultation program;
- the results of the independent environmental reports and Hydro's technical analysis of route alternatives in the second set of meetings.

This information was placed in a cardstock folder and given to those people attending the public meetings. It was also provided to interest groups and left at libraries and Hydro offices in Terrace and Kitimat.

The information kits were a valuable resource in helping people understand the project and its rationale, and to allow them to effectively participate in the consultation process.

To ensure that all public inquiries and concerns could be addressed, project team members attended public meetings to respond to specific questions. If a question could not be answered, a commitment was made to research the issue and to get back to the interested party.

The variety of expertise within the project team members attending the meetings helped to provide the public with assurance that all necessary steps were being taken to respond to questions and concerns in an open and proactive manner.

Only one individual requested that very senior B.C. Hydro personnel should be at the meetings to answer questions. In this instance, the project team outlined the mandate of the Project Manager and the Consultants to identify all issues related to this project and to address these as part of Hydro's Application to the B.C. Utilities Commission. It was also stated that the results of the consultation program are carefully reviewed to thoroughly understand the public's comments and concerns.

Stage II - Public Consultation

This stage of the process provided a forum for direct public participation to identify ideas and concerns with the proposed project. Public information materials developed in Stage I were used to support this second stage of the program, as outlined below.

10) Interest Group Meetings

As a first step in presenting the project to the public, the project team identified a number of interest groups and individuals in communities in the study area, based on suggestions by local and regional governments, past contact by the Community Relations Coordinator, and by referrals from other groups interviewed. Fourteen interviews took place during October 1989, and the project team maintained contact with these groups throughout the public consultation program.

Group meetings were held at the B.C. Hydro offices in Terrace and Kitimat, the results of which are summarized in Appendix C.

Interest group meetings lasted for 1 to 1.5 hours and were attended by up to three group representatives. The general format for the interviews included:

- an overview and description of the project, and the planning and public consultation studies;
- a discussion of the group's history, representation and interests;
- a discussion about how the project could affect or interest the group and its members;
- identification and discussion of specific concerns;

- questions and discussion of potential benefits which the group felt could occur as a result of the project proceeding (e.g. employment, economic impacts);
- identification of any special information requirements or concerns needing to be addressed;
- any suggestions by the group about Hydro's public consultation program.

Comments and suggestions from the interest group meetings were reviewed by the project team prior to the first set of public meetings. Some groups requested additional information on topics such as Hydro's vegetation management program, terms of reference for the environmental studies, and electric and magnetic field effects. This information was made available to these individuals through written responses, library referrals and during presentations at the first set of public meetings.

11) Public Meetings - First Set (see Appendix C Meeting Notes)
The first set of public meetings were held on November 21st and 22nd, 1989, in Terrace and Kitimat. The purpose of these meetings was to:

- present the project and to clarify any specific aspects related to the technical planning and development of the proposed transmission line; and,
- to identify specific interests, issues and concerns related to the proposed project that should be considered by the project team.

Issues such as forestry, fisheries, land use, public access to the corridor and the rationale for the line were anticipated.

The following meetings were held:

- November 21 - Terrace Oddfellows Hall - 21 attendees (including press)
- November 22 - Kitimat Legion - 14 attendees (including press)

Total - 35 attendees

Meetings were advertised in the local newspapers and radio up to ten days in advance. Copies of the newspaper and radio ad placements are presented in Appendix F. Representatives from each interest group attending the earlier meetings were contacted by telephone in advance to advise them of the meeting location and schedule.

The format for the meetings included a half hour preview of information handouts and displays, followed by presentations and a discussion period. The display included a series of large scale photographs and cross sections of the Kitimat Valley and the existing transmission line corridor. This graphic presentation of the project allowed members of the public to identify with particular landmarks in the Kitimat Valley area.

The presentations included a ten minute overview of Hydro's Twenty Year Resource Plan and future energy needs, a ten minute description of the project, an overview of the proposed environmental studies, and a five minute outline of the public consultation program. It focused on providing information about the project, but purposely did not identify specific impacts and mitigation measures in order not to bias the discussion period which followed. The presentation format and notes of the first set of public meetings is included in Appendix C.

A discussion and issue identification session followed the presentation, with an emphasis on having the public identify potential concerns and ideas about the project and ways of improving it should it proceed. Members of the project team noted the substance of each question and the project team's response. If a response to a question or concern could not be given, a commitment was made to research the question and to respond directly to the individual either in writing or at the second set of public meetings.

12) Analysis of Public Input

Following the first set of meetings all of the public input, including the results of the interest group interviews and the information requests, were presented to the project team to determine how these concerns could be addressed. In some cases, members of the project team were required to send out additional information or to contact concerned individuals directly.

Concerns noted at the public meetings focused primarily on different aspects of the environmental studies, and these were incorporated into a project team environmental analysis workshop held on December 08, 1989.

Following the route analysis and the preliminary completion of the environmental studies, a second set of public meetings was scheduled for February 05 and 06, 1990, to present the response to particular concerns, and the preliminary results of the independent environmental studies.

On January 19, 1990, prior to the second set of public meetings, each person on the mail list was sent a notification and schedule of the February 05 and 06 meetings (Appendix D). This, combined with the advertising provided public notice well in advance of the meeting dates. The ad copy is presented in Appendix F.

Local and regional governments were also contacted by telephone on February 01, 1990, to inform them of the meetings and to offer to meet at their convenience. The City of Terrace and the Regional District of Kitimat-Stikine declined this offer in favor of attending the public meetings. The District of Kitimat, however, asked B.C. Hydro to make a presentation to its Council on February 19, 1990.

Press interviews were also set up in both Terrace and Kitimat, prior to the public meetings in each community.

13) **Public Meetings - Second Set** (see Appendix C Meeting Notes)
The purpose of the second set of public meetings was to report back to the public on how their input had been used in planning for the transmission line. It provided the project team with an opportunity to respond to specific concerns and to present the preliminary results of the environmental studies. Two meetings were set up as follows:

- o February 05 - Terrace Oddfellows Hall - 15 attendees (including press)
- o February 06 - Kitimat Legion - 19 attendees (including press)

Total - 34 attendees

The format for the meetings included a ten to fifteen minute introduction and overview of the status of the public consultation process and the route evaluation form provided to each attendee. This was followed by three presentations, each of which focused on a particular aspect of the project. The presentation by the Project Manager described the project to re-acquaint people or first time attendees. This was followed by the Environmental Studies Consultant who outlined the results of the independent environmental and land use studies, and a presentation by Hydro's Transmission Engineering staff person about the technical benefits and constraints of each route option. A question and discussion period followed the presentations, and members of the project team stayed until all questions and concerns had been addressed. Issues included project design, clearing and maintenance, loss of forestry and fisheries habitat, and the results of the environmental studies. Where the project team could not address a particular concern, this was noted and a follow up response prepared.

The meeting attendance was lower than anticipated. However, advertising for the two sets of public meetings was likely not a factor affecting attendance since the use of radio and newspaper advertising was extensive, and each person on the mail list was notified directly. Low turnout may have been due to a lack of interest or concern about the project or possibly inclement weather conditions on November 22, 1989, and February 6, 1990 when meetings were held in Kitimat.

14) Meetings with Native Groups

Neither of the two proposed route alternatives cross or are contiguous to Native Reserves. However, the study area is within traditional territories for the Haisla Nation and members of the Tsimshian Tribal Council. Native groups are concerned about B.C. Hydro's electricity planning and the potential impact of the Alcan Kemano Completion Project on the natural environment, particularly the fisheries habitat. It was also stated that one way of effectively voicing opposition to Alcan's activities is to express concern about B.C. Hydro's transmission line projects.

In recognizing the importance of native issues in the Terrace - Kitimat area, the project team contacted Native Bands in the area including:

- o Kitamaat Village Council (Haisla Nation)
- o Tsimshian Tribal Council
- o North Coast Tribal Council
- o Lax-Kw-Alaams Band
- o Hartley Band
- o Kitsumkalum Band
- o Kitselas Band
- o Metlakatla Band

Members of the project team had previously met with representatives of the Haisla Nation, Kitselas Band and Kitsumkalum Band in separate meetings on October 16 and 17, 1989. These meetings lasted for 1 to 1.5 hours and involved an informal presentation and overview of the project, the public consultation process and the environmental and land use studies which had just been initiated. In the discussion which followed, the Bands focused their concerns on resource impacts to their land claim areas, the fact that land claims have not been addressed by various levels of government, trapline compensation and the relationship of this project to the Kemano Completion Project.

Subsequent meetings were held with the Haisla Nation on November 19, 1989 and on February 19, 1990, at their request to present further details on the project, the results of the environmental studies and Hydro's technical analysis. Notes of the February 19th meeting are presented in Appendix C.

A meeting was also held with the Tsimshian Tribal Council on February 07, 1990, in Prince Rupert. The meeting was scheduled to coincide with a Tribal Council meeting representing all Bands, except the Haisla in the study area. The project team presented the project to the Tribal Council and responded to questions. Notes of this meeting are also contained in Appendix C. Concerns identified by the Tribal Council included impact to the environment, identification of archaelogical and heritage sites, and an opportunity to review and comment on the environmental reports. There was general appreciation for B.C. Hydro's efforts to communicate and listen to the Tribal Council's potential concerns and interests in the project. The Tribal Council also offered to contribute to Hydro's archaeological studies on native heritage sites, and the Environmental Studies Coordinator committed to working with the Bands to identify heritage sites and to provide a copy of the environmental reports when completed.

Stage III - Documentation and Monitoring

15) Final Report

Based on the methodology and the results of the consultation process, PERC has prepared this report. A draft of the report has been reviewed by B.C. Hydro to ensure accuracy with respect to dates, policies and implementation responsibilities. Although B.C. Hydro provided comments on the draft, PERC retains complete responsibility and ownership for the contents of the final report.

16) Monitoring Program

The Consultation Consultant's mandate for public consultation on the Kitimat - Skeena 287 kV transmission line will be complete following a comprehensive documentation of the program. However, the need for ongoing dialogue with the public has been recognized and discussed in the second set of public meetings, and in discussions with B.C. Hydro.

B.C. Hydro has taken steps to ensure that the public will be kept informed about the project, by maintaining the toll free telephone information line, responding to future public information requests and, where necessary, ongoing contact with interest groups and local and regional governments in the area. The planning and environmental reports have also been placed in Hydro offices and public libraries in the study area to allow interested persons an opportunity to review and comment on the results of the studies and the route evaluation process. Suggestions for a monitoring program are discussed later in the report.

Public Comments and Concerns

During the public consultation program, a variety of comments and concerns were identified. A synopsis of the issues and how each has been addressed is outlined in the following discussion. It is important to note that many comments pertained to clarification of technical aspects of the project; for example, questions on tower height, placing the line adjacent to the natural gas pipeline and width of the right-of-way. These were discussed at the meetings and have not been noted as major concerns.

The following discussion is the Consultant's analysis of each issue.

1) Project Justification

Questions arose as to the need for the 287 kV transmission line at each of the public meetings and in discussions with interest groups, native groups and local and regional governments. These questions were anticipated and the necessary steps taken to ensure information was available to the public on the project rationale.

Questions on the need for the project were addressed in a number of ways including:

1) Presenting the project rationale as part of the presentation at the outset of each public meeting and in discussion sessions with interest groups;
2) Providing copies of Hydro's Twenty Year Resource Plan Summary and a project description to interest groups and people attending meetings or requesting information kits;
3) Providing a direct response to questions raised at the public meetings, or committing to obtain the necessary information in situations where answers were not readily available.

The discussion on project justification typically occurred at the beginning of the public meetings, and did not take up a substantial amount of time. It was stated that the transmission line was required to transmit electricity to be purchased from Alcan into the B.C. Hydro system to meet electricity needs in B.C. Most people attending the meetings appeared to understand the need for the additional transmission line, and were more interested in the route selection process and the results of the environmental studies.

2) Environmental Management

Environmental concerns focused on a variety of issues including the scope and results of the environmental studies, trapline compensation, vegetation management, loss of silviculture investment, aesthetics and fisheries impacts.

a) Scope of the Environmental Studies

During the public meetings, B.C. Hydro was asked to outline the environmental studies and to respond to questions. Hydro's Environmental Studies Coordinator provided an overview of the environmental program at the first set of meetings and presented the preliminary results of the independent environmental studies at the second set of public meetings. The important and sensitive biophysical and cultural resources in and adjacent to the corridor were identified, along with proposed measures to protect these resources if the project proceeds.

People attending the meetings asked specific questions about the nature of the studies and, in response to requests, the Terms of Reference for the environmental program were sent to interested members of the public. This included representatives of the Haisla Tribal Nation and the Tsimshian Tribal Council.

b) Results of the Environmental Studies

At the second set of public meetings, much of the discussion focused on the results of the environmental studies, and the potential environmental impact of each route option. It was stated that the results of these studies were based on independent consultant analyses and that B.C. Hydro had not made any assumptions or decisions about which route option was most environmentally acceptable.

Those attending the meetings questioned the results of the independent environmental studies which tended to favor a new route along the west side of the Kitimat Valley. About half of the people attending the meetings expressed concern about how a transmission line through a new area (Route B) could have less environmental impact than widening the existing utility corridor on the east side of the

Valley (Route A). The Environmental Studies Coordinator responded to questions and provided information of a comparative nature between the two route corridors; for example, comparing the geology or fisheries habitat. Similar questions and concerns were identified by Kitimat City Council during a meeting with the project team on February 19, 1990.

The interest in the results of the environmental studies led to a decision by the Project Manager to delay the Application to the B.C. Utilities Commission. The Application submission was originally scheduled for the end of March 1990, approximately the same time that the environmental study reports would be completed. The application submission date was rescheduled to September 1990, to give interested members of the public, resource agencies and local governments an opportunity to review and comment on the environmental reports.

Copies of the environmental reports were sent to Kitimat Council and Native groups, and were placed in local B.C. Hydro District Offices in Terrace and Kitimat during May 1990. The reports were also placed in local libraries in July 1990, and those people on the mail list were informed about the availability of the reports and the change in timing of the Application by letter on July 25, 1990 (Appendix D).

c) Loss of Traplines

The concern about loss of traplines was briefly discussed at each meeting. Prior to the public meetings, members of the project team met with representatives of the B.C. Trappers Association. This meeting provided an opportunity for B.C. Hydro to present the project and for the Trappers Association to outline their concerns. The Consultant noted that there is support for Hydro's trapline compensation program from representatives of the B.C. Trappers Association.

d) Vegetation Management

Questions about vegetation management focused on the amount and types of herbicides used, how chemicals are applied and whether certain types of vegetation can be retained in the corridor to protect and enhance wildlife habitat. Most people attending the meetings were not aware of Hydro's policies with respect to vegetation management, including notice to property owners prior to application, permits and approvals required, the types and amounts of herbicides used, and application methods. The Environmental Consultant provided an overview of the vegetation management program and outlined Hydro's objective of minimizing the use of herbicides where possible. It was also stated that over the last ten years, approximately 40 litres of 'Roundup' has been used in the Kitimat Valley area by B.C. Hydro. Regardless of the amount used, it was noted that there is public support for minimizing the use of herbicides and for promoting low growing vegetation within transmission line rights-of-way.

e) Loss of Forest Lands

Because of the importance of forestry to the local economies, the potential loss of silviculture is an important concern. As much as possible, the public wanted to minimize the impact to the forest resource base, including the loss of merchantable timber and the loss of silviculture investment particularly on the western route corridor.

During public meetings it was stated that analysis by the forestry consultant indicated that placing the line on the east side of the valley would result in a loss of 870 cubic metres of merchantable timber per year, compared to 1100 cubic metres per year on the western route. A financial value was not placed on this potential loss, other than to say that a cubic metre of timber is worth approximately $200.00 under current market conditions.

The potential loss of the forest resource was presented along with other resource impacts (e.g. fisheries habitat) to ensure that each environmental resource received equal consideration in the discussion and, ultimately, in the route selection process.

f) Aesthetic Impacts

The potential aesthetic impact of the transmission line was an important concern to the majority of those attending the public meetings. This stemmed from the independent visual impact analysis which concluded that the line would have less visual impact on the west side of the valley, compared to placing it on the east side adjacent to the existing transmission line. The rationale for this evaluation was that if the new line was placed adjacent to the highway, it would be visible to more people travelling along the highway, thus a greater visual impact.

Many people attending the meetings had a different opinion and stated that adding to an existing corridor would have less visual impact than creating a new corridor through the valley. There was concensus from those attending the second Kitimat meeting to disagree with the visual consultant's assessment, and to support maintaining a common corridor which was felt to have less visual impact.

One important exception to this opinion in the study area occurred at the first meeting of the Lakelse Community Association on February 26, 1990. The Association passed a motion to support a route on the west side of the Valley. One reason for this support was that the Association felt there would be less visual impact on Route B than Route A. Lakelse community is located approximately 20 kilometers south of Terrace along Highway 25, and is very close to the existing transmission line corridor.

g) Fisheries Impact

Concerns about potential impact to the fisheries as a result of the proposed new line was raised during the public consultation program. This focused on where the existing line crosses the Kitimat River floodplain, and Sockeye and Williams Creek. On the proposed Route B, the public identified potential impacts at crossings of the Lakelse and Wedeene Rivers.

During the public meetings it was acknowledged by the Environmental Studies Coordinator that these rivers and their tributaries are important and sensitive habitats. Measures would be required to protect these areas during access and construction. Fisheries concerns, and other potential environmental issues, are being addressed through ongoing discussion with the federal Department of Fisheries and Oceans, and the provincial Ministry of the Environment.

3) Common Corridor Concept

The public meetings focused on informing the public and responding to their questions and concerns. However, towards the end of the first set of meetings the project team asked the public about their preference for route options, including tower design alternatives.

At the first set of meetings, the public evaluated four options for the transmission line, namely:

Option A - single circuit, wood pole structures along the east side of the valley, adjacent to the existing line;
Option A1 - double circuit, steel lattice towers along the east side of the valley, carrying both the existing and new line; (as suggested by the public)
Option B - single circuit wood pole structures along the west side of the valley;
Option B1 - double circuit steel lattice towers along the west side of the valley and including the relocation of existing lines adjacent to the highway to the west side. (As suggested by the public.)

Those attending the meetings strongly endorsed the concept of a common corridor, that is, keeping all transmission lines either on Route A or Route B, but not having both routes. Of the two alternative corridors, those people attending the meetings tended to prefer Route A, the existing corridor, based on their expressed opinions.

To assess each of the route options, Hydro undertook a technical feasibility analysis of each of the four route options (Appendix A), and this was presented at the second set of meetings. The analysis incorporated the need for line security and reliability, access, clearing and design considerations, and concluded that placing all circuits on one tower would result in substantially higher project costs because of the need for steel lattice towers, and would reduce the security of the line.

4) Health Effects

The potential health effects from living and working near the transmission lines was identified at the public meetings, but did not appear to be a major concern. This may have been due, in part, to the fact that the line is not immediately adjacent to built up residential areas.

A question was asked at the second set of meetings about the electric and magnetic field effects (EMF) of the additional transmission line on animals. This individual was a reporter interested in writing an article on EMF.

The concern focused on a request for more information, and the project team directed this individual to reports and reference material on EMF which had been placed in local libraries at the outset of the public consultation program.

5) Economic Benefits

The public identified two potential areas for economic benefits as a result of construction of the proposed line. These included potential benefits from construction, employment and the purchase of goods and services in the project area. Suggestions made by the public included:

- utilizing local goods and services;
- hiring local contractors to do clearing and construction;
- ensuring trapline compensation;
- using hand clearing instead of herbicides for vegetation management;
- hiring local consultants to do environmental and engineering studies.

A second area of potential benefit is employment and training in specializations associated with planning, resource analysis and survey work on the proposed project. It was suggested that Hydro use local people to assist in studies on environmental resources and land use planning, providing they have the necessary qualifications.

These suggestions were noted by the project team. The Environmental Studies Consultant noted that the fisheries consultant does live in Terrace.

6) Evaluating Public Input

At the public meetings, questions arose as to how the public's input would be used in selecting the best route for the transmission line. This concern was the result of the public's perception that the environmental consultants preferred Route B, while the public was more favorable to a common corridor on Route A.

One individual attending the second meeting in Kitimat requested that the project team ask that if the B.C. Utilities Commission holds a hearing on this project, that it be held in the Kitimat-Terrace area. The project team made a commitment to note this request in the public consultation report.

The response to how public input would be evaluated took the following format:

- the analysis of the route alternatives will take into consideration the results of the technical studies, the environmental and land use studies, and the results of the public consultation process. All of these factors will be evaluated to arrive at the best alternative.
- The B.C. Utilities Commission takes into account the public's interest in the project, and has the authority to make decisions and to hold public hearings if it deems that further public input into the decision making process is needed.

In order for the project team to obtain an indication of the public's values for environmental and planning criteria, and for each of the route corridors, people were asked to complete an evaluation form at the second set of public meetings. The form listed all of the environmental components, technical criteria and the two route corridor options. People were asked to weight each of the environmental and technical criteria, and then to assign a score as to how each criteria would be impacted by the project. The weighting and scores were on a scale of 1 to 3 with one being lowest weight or impact and three being highest.

Instructions were provided as to how to complete the route evaluation form at the outset of the second set of public meetings. It was also stressed that this exercise was only one means of obtaining input to the project, and would not be the only measure of public opinion.

Seventeen evaluation forms were completed and returned; this included eight from the Terrace meeting and nine from the Kitimat meeting. The results of the public evaluation of route options represents an additional source of public input. It is important to note that some of the forms were not entirely complete, for example, only one route was evaluated and this has been taken into account in drawing conclusions from the data.

The numerical results of the route evaluation are presented in Appendix C and suggest that:

- those attending the meetings felt that fisheries and wildlife are among the highest priority environmental concerns in the study areas; heritage resources are comparatively lower;
- the comparative scores for the alternative routes suggests that respondents feel that Route A is more environmentally sensitive than Route B. This perception may be due, in part, to a recognition of fisheries concerns where the line could potentially cross the Kitimat, Lakelse, and Wedeene Rivers, and Sockeye and Williams Creek.

Public preference for a particular route corridor was also expressed at a meeting of the newly formed Lakelse Community Association on February 26, 1990. At this meeting, the Association discussed the project and passed a motion supporting the selection of Route B for the proposed transmission line. A copy of the motion is presented in Appendix C.

Evaluation of the Public Consultation Program

The following criteria have been established for evaluation of the public consultation program:

1. **To what extent did the public have access to the consultation process and to project information?**

   The public consultation process was designed to be proactive and open, and to ensure that members of the public and interest groups had access to information and meetings with the project team. Access was ensured through media advertising and information, and meetings with the public and interest groups. The process was open and accessible, based on the following aspects:

   - Throughout the public consultation program, the public was kept informed and ntoified of meetings through the local media. This included a comprehensive press release, newspaper articles, press interviews with members of the project team and advertisements for the public meetings.

   - Advertising for the public meetings took place up to ten days prior to the scheduled meetings, in all of the local papers and on radio stations to ensure that people had access and knowledge of the public consultation process.

   - At the outset of the program, members of the project team met with local and regional government representatives to inform them of the project and to listen to any concerns and issues. These meetings also served to identify individuals and groups that should be contacted because of their interest in the project.

   - Members of the project team then met with interest groups prior to the public meetings to discuss the project and each group's ideas and concerns.

- All individuals contacted through the consultation process, including those making telephone inquiries, written inquiries and attending meetings, were placed on a mail list. Each person on the list was contacted prior to the public meetings, and to inform them of the availability of the environmental study reports.

- Meetings with the public were held in both Terrace and Kitimat to provide an opportunity for residents of both communities to participate. The project team also met with native groups in Prince Rupert and Kitamaat Village to discuss the project.

2) Was the public given an opportunity to express their views and concerns?

Based on the extent of meetings and contact with the public, it is fair to suggest that sufficient opportunity was provided for the public to ask questions and to voice their opinions and concerns. Particular aspects of the consultation process which support this include:

a) Public Meeting Format
The public meetings were designed to be open and to encourage discussion on particular issues and concerns. An informal presentation format was used to present the project, and the Consultant acted as a facilitator to direct questions to project team members and to bring the group to a concensus on the issues and concerns. The meetings lasted for 2 to 3 hours and members of the project team remained after the formal part of the meeting to ensure all concerns and questions were addressed.

b) Public Meeting Locations
The meeting locations were selected based on population centres and recommendations by local and regional government representatives early in the consultation process. Government officials clearly stated that separate meetings should be held in Terrace and Kitimat, and this recommendation was adopted by the project team.

The meeting locations provided a central meeting place for people interested in the project. Additional public meetings in communities outside of the study area (e.g. Prince Rupert) would not likely have resulted in new issues being identified.

c) Interest Group Meetings

The meetings with interest groups provided an opportunity for specific interests to be discussed; for example, native issues, the cross country ski club plans for trails in the Lakelse area, or the Steelhead Society's interest in preserving old growth forest.

d) Meetings with Local and Regional Governments

The project team recognized the importance of local governments in representing the views of their constituents and in providing information. Meetings were held with local and regional governments at the outset of the project and at intervals in line with the public meetings and release of the environmental reports. An example of how this was effective occurred in the February 19, 1990, meeting with District of Kitimat Council. Recognizing Council's interest in reviewing the environmental reports, B.C. Hydro made a decision to delay the Application until Council and the public had an opportunity to review the environmental and land use studies.

e) Meetings with Native Groups

In recognizing the importance and value of native interests, the project team held meetings with all native Bands and Tribal Councils in the project area. This included six separate meetings with representatives of five different Bands, two Tribal Councils and one Tribal Nation. In addition, Terms of Reference for the environmental and land use studies were sent to the Haisla Tribal Nation, and the Tsimshian Tribal Council representing six Bands in the project area.

f) Telephone Information line and mail list

In the event that people could not attend the meetings, concerns could be expressed by calling Hydro's toll free information line or by writing to B.C. Hydro. All inquiries and responses were catalogued on a computer. In total, 17 public information requests were reviewed and responded to.

g) Comment Sheets and the Route Evaluation Form

Not everyone attending the meetings chose to participate. Therefore, to maximize the opportunity for input, the comment sheets and the route evaluation form were used to solicit additional concerns or questions.

3) *Were the results of the public consultation program representative of public opinion?*

The level of public interest and input into the project was relatively moderate, and somewhat less than anticipated. When asked about this at the meetings, many people stated that the transmission line is not a major concern, particularly given the nature of other resource based development in the area. Some individuals thought that the project would have a positive benefit by opening up the west side of the Kitimat Valley for industry.

A total of over 60 people including the press attended the public meetings; and the project team met with over 20 interest groups, including three meetings with District of Kitimat Council, and two meetings with the Haisla Nation. A total of 17 information inquiries were received, and 17 route evaluation forms were completed.

The consultation program was designed to provide a comprehensive assessment of public concerns and issues related to the transmission line. Additional public meetings or a larger number of participants would not necessarily have added new concerns but would likely have provided support for existing issues.

4) *To what extent was the public input used in planning the project?*

All of the questions and comments from the public meetings were noted, and directly incorporated into the planning process. This occurred in project team meetings, and improved the planning for the project in a number of ways:

- The number and location of public meetings was based on suggestions by local and regional governments, who stated that meetings should be held in both Kitimat and Terrace.

- Suggestions by the public and the District of Kitimat Council to allow a review of the environmental studies prior to submission of the Application were adopted by the project team.

- The project team met with the Kitimat Rod and Gun Club and agreed to relocate that portion of the proposed transmission line which could potentially disrupt their shooting range.

- The public consultation process provided an opportunity for B.C. Hydro to address general issues such as the use of herbicides, the export of electricity and Hydro's Twenty Year Resource Plan.

5) *Has the public influenced the route selection process?*

The public's preference for route selection focused on maintaining a common corridor, as opposed to having the proposed transmission line geographically separate from the existing line. The route corridor most preferred by the public is Route A, and B.C. Hydro has initiated additional studies and discussions with resource agencies to determine construction requirements and potential impact mitigation measures that may be required.

Additional Public Consultation Steps

The commitment to public consultation does not end with the completion of this phase of the planning process. Additional steps are required to keep the public informed and updated as to future decisions, and the planning and the construction processes. In this regard, B.C. Hydro has committed to maintaining ongoing communication through its Community Relations Coordinator and Project Public Consultation Officer, and by responding to public information requests. In addition to these steps, the following suggestions are offered for ongoing public participation.

Ongoing Communication

Although the formal public consultation program is near completion, clearing and construction will not take place before 1993. During this interim period, it is possible for people to lose touch with the project and the public consultation and planning processes. New people moving into the area could also be unaware of the project and the nature of the studies which will have been completed.

To address this, the following steps should be considered:

a) if the project receives regulatory approval, a press release should be issued and all people on the mail list informed directly;
b) periodic press releases on the status of the project, possibly supplemented by interviews with the Community Relations Coordinator and the Project Manager;
c) maintaining the toll free information line to respond to public inquiries;
d) having the Community Relations Coordinator present updates on the project when meeting with special interest groups, government officials or the general public;
e) placing ads in local newspapers and notices in local government offices when the time comes for tenders to be let.

Project information and communications could be designed to address the following concerns:

- status of the project relative to regulatory approvals and issuance of the Certificate of Public Convenience and Necessity;
- reaffirming the need and rationale for the project;
- project timing and implementation schedules;
- results of the environmental studies and mitigative measures adopted.

Summary

In summary, the public consultation program took place over a nine month period beginning in September, 1989, and lasting through to May, 1990. It involved discussions with two municipal governments and one regional government. Twenty interest group meetings were held, representing approximately 35 different organizations including Native Bands. Four public meetings were held, and involved approximately twelve hours of public discussion about the project. These meetings were held in Terrace and Kitimat and attended by over 60 people including members of the press. As of August 31, 1990, 17 public information requests have been received and responses prepared and sent to the individuals.

The public consultation program was effective in identifying potential public concerns with respect to the proposed 287 kV transmission line from Kitimat Substation to Skeena Substation. There are, however, necessary steps to providing information and keeping the public informed about the status of the project, as discussed in the previous section of the report.

The overall goal of the public consultation program was to improve the project by incorporating public ideas and concerns into the planning process. Some examples of how this has occurred on this project include:

- a closer working relationship between B.C. Hydro and the general public;
- identification of ways to improve the economic benefits of the project to local contractors;
- closer analysis of Route A which the majority of the public appeared to prefer, and ways of addressing potential environmental impacts;
- an enhanced awareness of B.C. Hydro's commitment to public consultation and listening to and addressing the public's concerns;
- deferral of the application submission to the regulatory authorities until local governments had an opportunity to review the environmental reports.

The public consultation program has attempted to provide information to the public and to obtain input into the planning process for the transmission line. As a result, the project has been improved beyond the technical planning criteria. It is important to recognize, however, that public consultation on this project alone cannot resolve all of the issues and concerns raised by the public. This will require ongoing liaison with the public to provide information and to respond to concerns in an open and proactive manner.

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APPENDIX A

PUBLIC INFORMATION MATERIALS

BC hydro

PROJECT INFORMATION

SKEENA-KITIMAT
PROJECT DESCRIPTION

INTRODUCTION

As a result of an agreement to purchase power from Alcan, there is a need to reinforce the existing transmission system between Skeena Substation, near Terrace, and Kitimat Substation, near Kitimat. In order to bring the power into the B.C. Hydro system, Hydro proposes to construct a second 287 kV transmission line between these two substations.

PROJECT DESCRIPTION

B.C. Hydro presently has one 287 kV transmission line between Skeena Substation and Kitimat Substation (Figure 1).

The new line would be single circuit, wood pole H-frame structures, physically similar to the existing line. The average height of the poles would be between 20 and 22 metres. The distance between the structures would vary depending on the terrain, however, in most cases it would be between 200 and 250 metres. Cross sections of the proposed line for each route alternative are shown in Figures 2, 3 and 4.

Switching facilities would also have to be installed at Skeena Substation, as well as a new microwave communication link to Kitimat Substation.

PROJECT JUSTIFICATION

The maximum rated load capacity of the existing 287 kV transmission connection is approximately 400 megawatts. This is sufficient for the present use of the line. However, the agreement with Alcan means a total of up to 800 megawatts could be transmitted into the B.C. Hydro system. This energy will come from Alcan's Kemano completion project scheduled for service in 1994.

To enable B.C. Hydro to reliably transmit this additional electricity, a new transmission line between Skeena Substation and Kitimat Substation will be required.

ROUTE OPTIONS

B.C. Hydro has identified two possible route options (Figure 1), although variations on these routes were identified by the public at the first set of meetings in November 1989, and by the consultants who are undertaking environmental studies for the project. Of the two main route corridors identified, Route A is 63 kilometres long and generally parallels the existing 287 kV line between the two substations. Route B is a more direct route. It is approximately 51 kilometres long, and runs west of Lakelse Lake.

A route for the transmission line has not been selected, pending the outcome of the public consultation program and the completion of the environmental studies. Which ever route is selected will have to be cleared and special measures will have to be taken to protect environmental resources, traplines and important cultural and recreation areas.

ENVIRONMENTAL AND ENGINEERING STUDIES

Environmental studies include assessments of potential ecological and social impacts of the proposed 287 kV line and ways of avoiding or mitigating those impacts. The environmental study team has used information from all available sources including government resource agencies, special interest groups and individuals. The environmental program has been closely coordinated with the engineering studies which are concerned with design, security, and cost.

The results of the environmental and land use studies, and the analysis of route options will be discussed at the second set of public meetings, on February 05 and 06, 1990.

A schedule for the project is outlined in Figure 5.

PUBLIC CONSULTATION PROGRAM

B.C. Hydro's public consultation program for the 287 kV transmission line between Skeena and Kitimat will identify and respond to community concerns in a proactive and open manner. A first set of public meetings was held in Terrace and Kitimat on November 21 and 22, 1989 to allow individuals, and interested groups to exchange information with B.C. Hydro staff. The information obtained from these meetings has been used by the Project Team in its analysis of possible routes, the results of which will be discussed at the second set of public meetings on Februry 05 and 06. B.C. Hydro will also ensure that engineering and environmental study results and project information are available to interested groups and individuals.

For further information on this project or other Hydro Projects, please contact:

Manager, External Relations
B.C. Hydro
970 Burrard Street, 18th Floor
Vancouver, B.C. V6Z 1Y3
In the Lower Mainland call 663-3614 or call toll free 1-800-663-1377

FIGURE 1

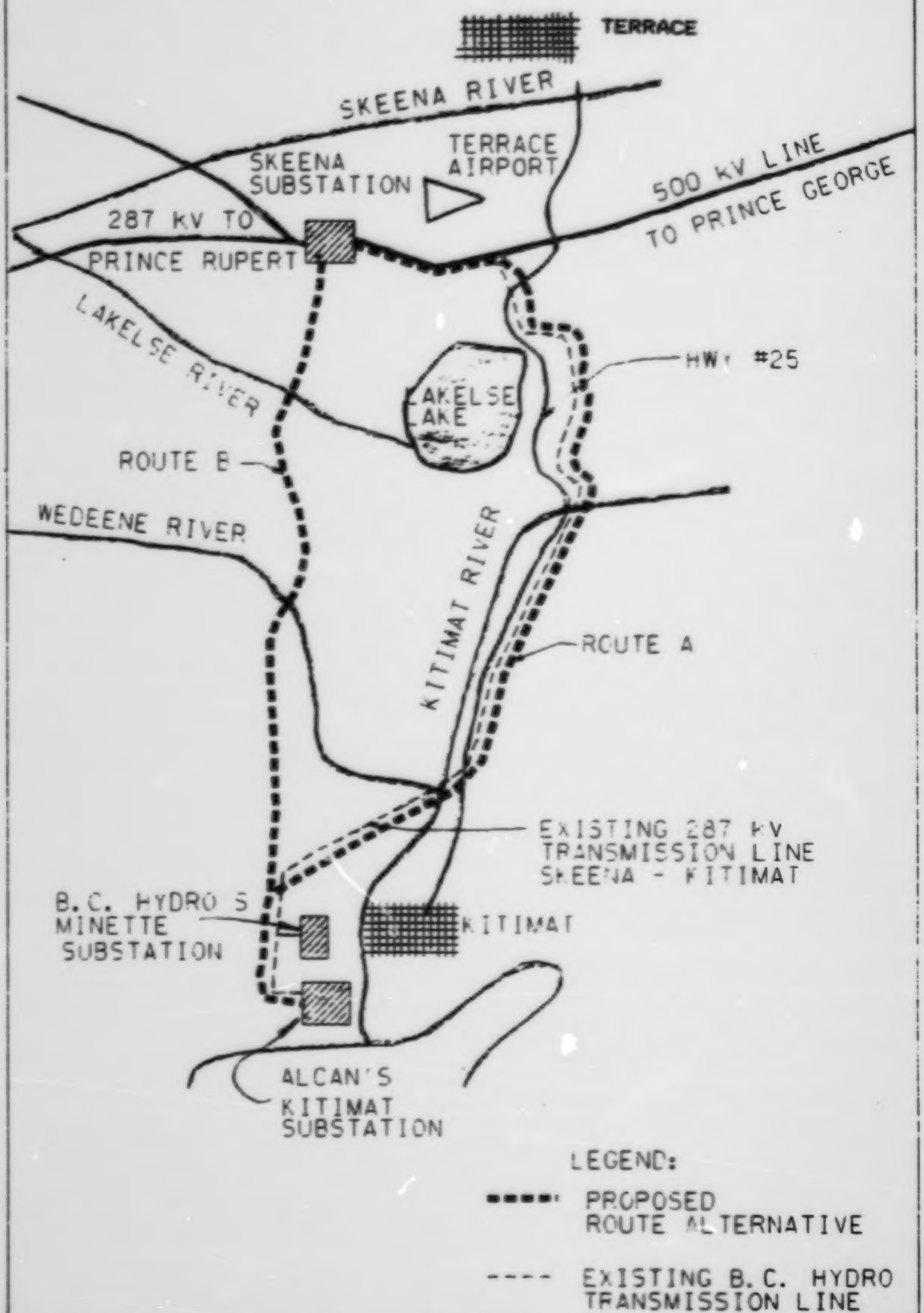

TERRACE
SKEENA RIVER
TERRACE AIRPORT
SKEENA SUBSTATION
500 kV LINE
TO PRINCE GEORGE
287 kV TO PRINCE RUPERT
LAKELSE RIVER
HWY #25
LAKELSE LAKE
ROUTE B
WEDEENE RIVER
KITIMAT RIVER
ROUTE A
EXISTING 287 kV TRANSMISSION LINE SKEENA - KITIMAT
B.C. HYDRO'S MINETTE SUBSTATION
KITIMAT
ALCAN'S KITIMAT SUBSTATION
LEGEND:
PROPOSED ROUTE ALTERNATIVE
EXISTING B.C. HYDRO TRANSMISSION LINE

FIGURE 2

SKEENA-KITIMAT 287 kV T/L
TYPICAL RIGHT-OF-WAY CROSS SECTION

ROUTE B - SEPARATE RIGHT-OF-WAY

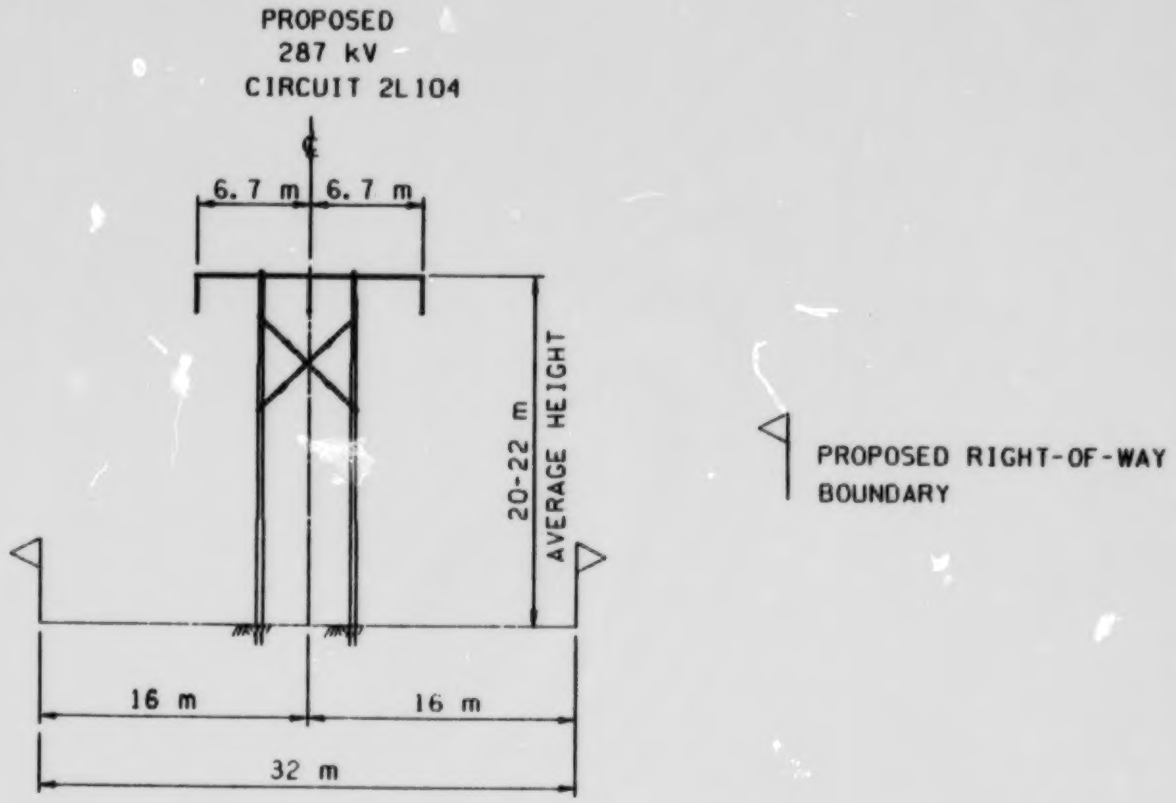
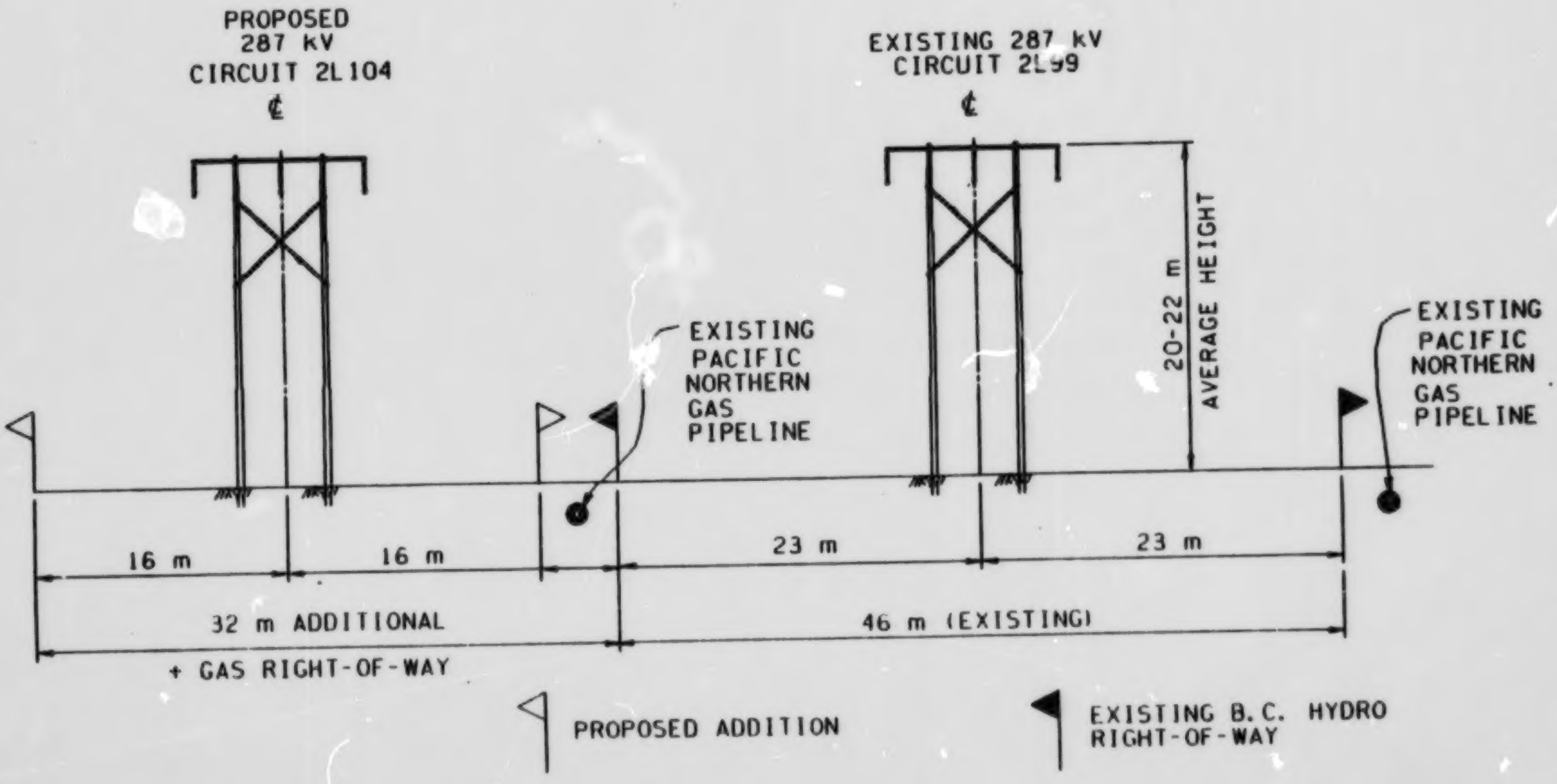

PROPOSED
287 kV
CIRCUIT 2L104
℄
6.7 m
6.7 m
20-22 m
AVERAGE HEIGHT
16 m
16 m
32 m
PROPOSED RIGHT-OF-WAY
BOUNDARY

FIGURE 3

SKEENA-KITIMAT 287 kV T/L
TYPICAL RIGHT-OF-WAY CROSS SECTION

WHERE ROUTES A & B PARALLEL EXISTING CIRCUIT 2L99 WITH A
GAS PIPELINE BETWEEN CIRCUITS



PROPOSED
287 kV
CIRCUIT 2L104
℄
EXISTING 287 kV
CIRCUIT 2L99
℄
20-22 m
AVERAGE HEIGHT
EXISTING
PACIFIC
NORTHERN
GAS
PIPELINE
EXISTING
PACIFIC
NORTHERN
GAS
PIPELINE
16 m
16 m
23 m
23 m
32 m ADDITIONAL
+ GAS RIGHT-OF-WAY
46 m (EXISTING)
PROPOSED ADDITION
EXISTING B.C. HYDRO
RIGHT-OF-WAY

FIGURE 4

SKEENA-KITIMAT 287 kV T/L
TYPICAL RIGHT-OF-WAY CROSS SECTION

ROUTES A & B PARALLEL EXISTING CIRCUIT 2L99
WITHOUT ADJACENT GAS PIPELINE

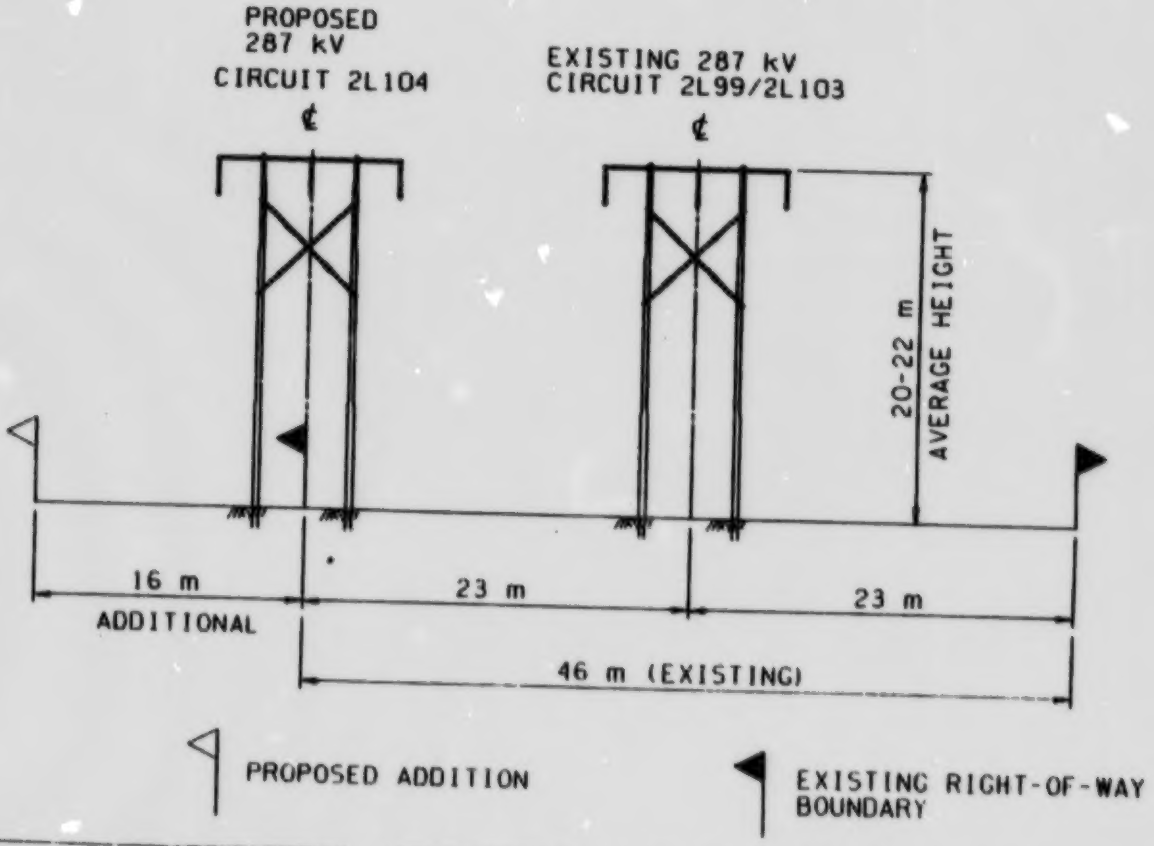
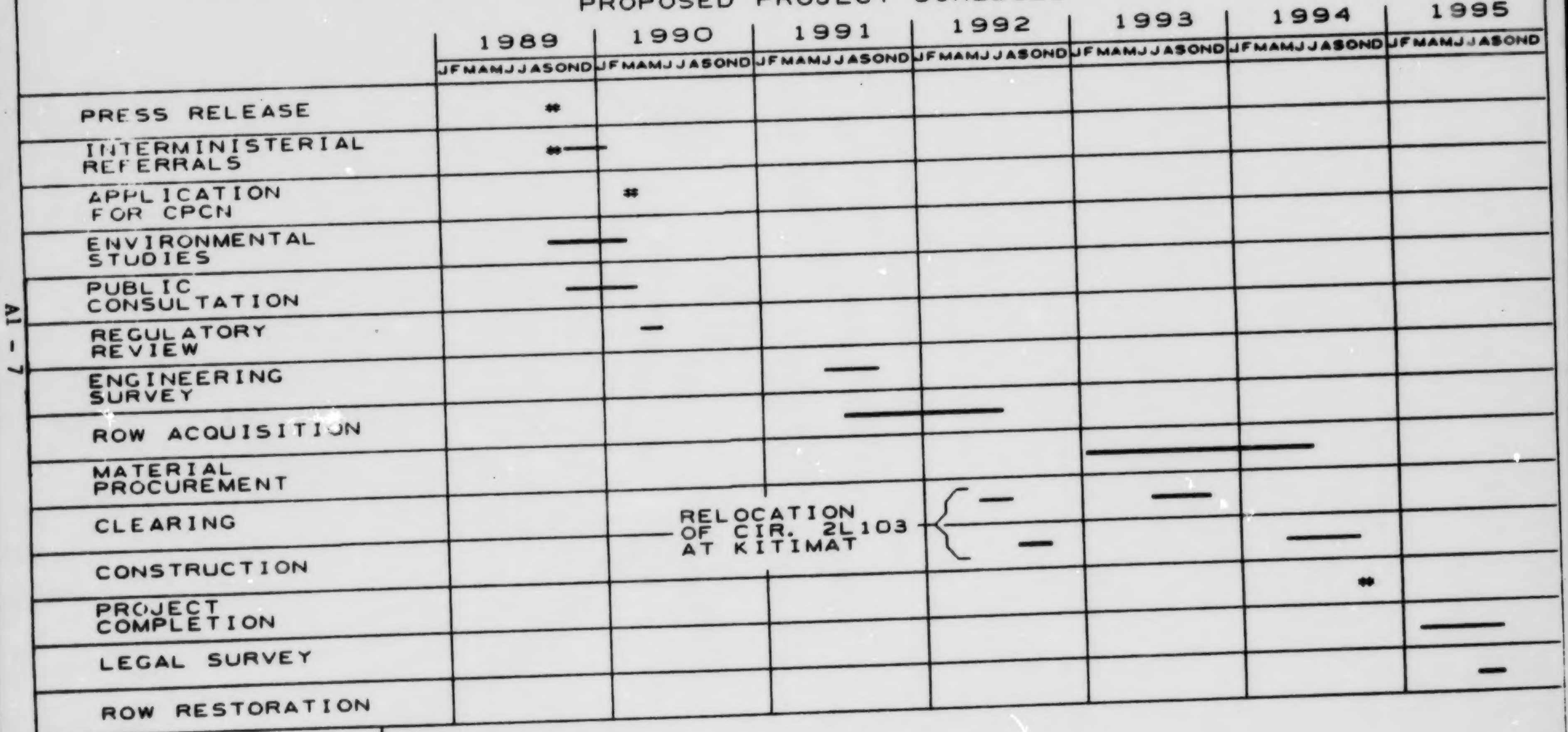

PROPOSED
287 kV
CIRCUIT 2L104
¢
EXISTING 287 kV
CIRCUIT 2L99/2L103
¢
20-22 m
AVERAGE HEIGHT
16 m
ADDITIONAL
23 m
23 m
46 m (EXISTING)
PROPOSED ADDITION
EXISTING RIGHT-OF-WAY
BOUNDARY

FIGURE 5

SKEENA - KITIMAT 287 KV TRANSMISSION LINE PROJECT, CIRCUIT 2L104
PROPOSED PROJECT SCHEDULE



LEGEND:

— PERIOD OF EFFORT

* MILESTONE

NOTE:
SHOULD THE COMPLETION OF THE PROJECT BE REQUIRED IN 1993, ACTIVITIES SCHEDULED FOR YEARS 1993 AND LATER WOULD BE ADVANCED BY ONE YEAR

R1 JAN/90

DESCRIPTION OF PROJECT

- An additional 287 kV transmission line connection between Alcan and B.C. Hydro
- Consists of a single circuit 287 kV transmission line and associated substation and microwave facilities.
- To enable B.C. Hydro to reliably transmit the additional electricity that would be received from Alcan's Kemano Completion Project as a result of coordination and electricity purchase agreements between the two companies.
- Transfer capability of 400 MW.
- Originates at Alcan's Kitimat Substation southwest of Kitimat and terminates at B.C. Hydro's Skeena Substation located south of Terrace, B.C.
- Probably in-service date of October 1994.
- Projected cost of B.C. Hydro facilities is estimated at $16 - $18 million.

PROJECT DETAIL

- Two proposed routes: Route A parallels the existing 287 kV circuit between Kitimat and Skeena and is approximately 63 km in length. Route B is a more direct route west of Lakelse Lake and is approximately 51 km in length.

- B.C. Hydro will be initiating an Interministerial Referral for the proposed project to obtain comments from government agencies and community councils.

  B.C. Hydro will also be conducting a public consultation program and environmental studies to identify public concerns and environmental impacts as may occur from the project and to address those concerns.

Objectives of the Public Consultation Program.

1. Provide as much information as is reasonably possible about the project to interested parties;

2. Incorporate ideas and concerns from interested parties into the planning process and specifically incorporate public input into the analysis of route options;

3. Report back to the general public the input received and how that input has been used in the planning process.

BChydro *proud of our Service*

ELECTRIC AND MAGNETIC FIELDS: ARE THERE BIOLOGICAL EFFECTS?

Wherever there is electricity, there are electric and magnetic fields. The names of the two fields are often combined and referred to as electromagnetic fields or EMFs, although each type of field has different properties. Electromagnetic fields that alternate or change polarity result from an alternating current, or "AC" source of electricity. In Canada and in the United States this change in polarity occurs 60 times per second (usually referred to as 60 Hertz). These fields are associated with all electrical appliances in homes and in workplaces, with the wiring that delivers electricity to houses and buildings, and with transmission lines.

Concern has been expressed among members of the public, regulators and elected officials over the possibility that exposure to the electromagnetic fields associated with transmission and distribution lines could have the potential to adversely affect human health.

Extensive studies have been carried out on the effects of these fields in humans, laboratory animals, isolated cells and tissues, and in livestock (both in the laboratory and in natural settings). Scientists have examined whether biological effects can be observed at electric or magnetic field strengths comparable to the highest levels that could be measured directly under a transmission line. In an effort to uncover any possible effects, further experiments have also been conducted, in laboratory settings, using field intensities much higher than those under transmission lines or that would ever be experienced by humans or animals in everyday life.

A distinction must always be made between biological responses or effects, and adverse or deleterious effects. The response of the eye to the turning on of the light in a room serves as a clear example of a biological effect that is in no way adverse.

Two basic approaches have been used by scientists to explore this question:

1. Laboratory studies using human or animal experimental subjects, or isolated organs and cells.

2. Epidemiologic studies in human populations that look for an association between exposure to electromagnetic fields and various diseases.

Laboratory studies of humans exposed to intense electric and magnetic fields have not observed changes in basic physiologic processes (such as blood pressure, temperature, sleep, appetite and physical functions). Other studies have been conducted on mood and behaviour, and again these have not observed changes in humans.

However, these studies have documented that very strong electric fields can sometimes be felt, by the stimulation of body hair, much in the same way as we sense static electricity when combing our hair in dry winter weather. Other documented effects include minor changes in the brain wave activity seen when a person is exposed to light or sound. These minor changes are generally viewed as not harmful, and in these experiments the subjects' awareness, judgement and mood were unaffected. Similarly small was a change in heart rate of about 3 beats/minute, an amount comparable to that normally caused by a person taking a deep

VT300

breath. This change was seen when subjects were exposed to strong electric and magnetic fields in combination.

A response that has been documented in laboratory rats is a decrease in the production of a hormone called melatonin upon exposure to electric fields. The significance of this response is unclear, and no adverse consequences from this response have been reported.

One recent epidemiologic study of childhood cancer showed a weak correlation between cancer cases and proximity to certain types of distribution lines. However, no association was found between childhood cancer and measured magnetic field levels in this or any other study. In fact, the investigator who conducted the study observed that "...it should be kept in mind that we have not proven that magnetic fields cause cancer." The consensus of the World Health Organization, the New York State Power Lines Project, and Health and Welfare Canada, after evaluating all of the available data, is that no risk to human health resulting from exposure to electric or magnetic fields from power transmission lines has been established.

Similarly, epidemiologic studies of the general health of workers exposed to electromagnetic fields examined physical and psychological well-being. These studies indicated that the workers were healthy and showed no indication of adverse effects from these exposures. Studies of the general population exposed to electromagnetic fields from powerlines also did not show any increase in the risk of developing cancer.

Research has also been conducted to determine whether the health and reproduction of farm animals living near or directly under high voltage transmission lines is affected. These studies indicated that exposure to the fields associated with transmission lines is not harmful to farm animals. For example, the fertility and reproductive success of cattle either penned or grazing freely under 400 kV transmission lines in Sweden was not different from cattle maintained far away from transmission lines. Similarly, a study in Iowa found that the growth and reproduction of pigs over several generations was not affected by living under a 345 kV transmission line.

B. C. Hydro has recognized that there is widespread public interest in the issue of human health risks from electromagnetic fields. The Corporation has followed scientific developments, evaluated public and employee exposure, and participated in utility and technical forums on the subject. A full-time project manager has now been appointed to deal specifically with this important issue. In addition to internal technical experts, B. C. Hydro has also retained consultants with specific expertise to assist in evaluating research and providing advice on this matter.

B. C. Hydro is committed to the search for a better understanding of EMF effects and will continue to provide the latest information to the public and its own workforce.

For further information call:

(604)663-3958 (collect if out of town)
Dr. Kelly Gibney
Project Manager
EMF Issues

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SKEENA x KITIMAT 287kV TRANSMISSION LINE PROJECT

ROUTING OPTIONS - INITIAL ROUTING TECHNICAL ASSESSMENT

ROUTE A - EAST SIDE OF KITIMAT VALLEY (TO COMMON ROUTE)

ADVANTAGES:

- Proximity to existing access
- Reduced clearing widths due to proximity of existing circuit and the gas pipelines
- Reduced right-of-way acquisition
- Common corridor concept

DISADVANTAGES:

- Poor soils
- confined route sections
- Proximity to existing gas pipelines
- Kitimat River Crossing (south)
- Little Wedeene River at confluence with Kitimat River
- Impact of fisheries concerns
- Increased visual concerns
- "Cross-overs" or "cuts and ties"
- Proximity to provincial park and recreational areas

SKEENA x KITIMAT 287kV TRANSMISSION LINE PROJECT

ROUTING OPTIONS - INITIAL ROUTING TECHNICAL ASSESSMENT

ROUTE B - WEST SIDE OF KITIMAT VALLEY (TO COMMON ROUTE)

ADVANTAGES:

- Approximately 10 km shorter, $2.0 million savings
- Few soils problems
- Established main access along route and direct from highway
- Majority of route logged, few stands of merchantable timber
- Within proximity of railway and main logging roads (corridor concept)
- Few watercourse crossings
- Little or no conflict with other utilities/facilities
- Increased security because of different route

DISADVANTAGES:

- New right-of-way
- Soil/slope stability west side of Wedeene River crossing
- Distance from maintained winter access

SKEENA X KITIMAT 287KV TRANSMISSION LINE PROJECT

SUMMARY OF COST ESTIMATES

OPTION	TOTAL COST 1989$	LENGTH (KM)	T/L UNIT COST ($/KM)
ROUTE A	$17,940,000	61	$235,000
ROUTE A-1	$42,000,000	61	$627,500
ROUTE B	$16,240,000	51	$247,500
ROUTE B-1	$35,640,000	51	$625,000

ROUTE A - SINGLE CIRCUIT WOOD POLE PARALLEL TO THE EXISTING CIRCUITS 2L99/103.

ROUTE A-1 - DOUBLE CIRCUIT STEEL TOWER ON THE EXISTING ALIGNMENT OF CIRCUITS 2L99/103 COMBINING THE EXISTING AND PROPOSED CIRCUITS

ROUTE B - SINGLE CIRCUIT WOOD POLE ON NEW ROUTE ON WEST SIDE OF KITIMAT VALLEY TO A POINT NORTH OF KITIMAT WHERE THE PROPOSED LINE WOULD PARALLEL THE EXISTING CIRCUITS TO KITIMAT SUB.

ROUTE B-1 - DOUBLE CIRCUIT STEEL TOWER ON THE ALIGNMENT OF ROUTE B.

		RATINGS				
		LOW → EXTREME				
		I	II	III	IV	V
EVALUATION COMPONENTS	**DESIGN CONSIDERATIONS** - Topography - Conductor Loading - Deflections	- no sidehill - light loading - low percent of defl	- rolling, some sidehill - light loading - medium percent of defl	- 30° average sidehill - medium loading - med-high percent of defl	- over 30° average sidehill - high loading - high percent of defl	- extreme sidehill - extreme loading - individual site selection
	ACCESS	Good existing access from other linear developments	Access to R/W at frequent points not far from existing roads. New road construction easy	Some access; new road construction possible	No existing access; new road construction difficult	Inaccessible to vehicles
	CLEARING	Little clearing; range land with scattered individual trees	Easy machine clearing	Moderate machine clearing; some hand clearing	Extensive hand clearing; forests that will not be logged	Totally hand clearing; steep, densely forested slopes
	SPECIAL CONSIDERATIONS	None	minimal	moderate	high	extreme

SKEENA - KITIMAT
287kV SCWP T/L

TECHNICAL EVALUATION TABLE

REPORT No

SKEENA x KITIMAT 287kV TRANSMISSION LINE PROJECT

SYNOPSIS OF MOST TECHNICALLY SATISFACTORY ROUTE

EVALUATION COMPONENTS	
DESIGN CONSIDERATIONS	
-Topography	ROUTE B
-Conductor Loading	ROUTE B
-Deflections	ROUTE B
ACCESS	ROUTE A
CLEARING	ROUTE B
SPECIAL CONSIDERATIONS	ROUTE B
SECURITY	ROUTE B
COST	ROUTE B

PROPOSED B.C. HYDRO

SKEENA SUBSTATION TO KITIMAT SUBSTATION 287 kV TRANSMISSION LINE

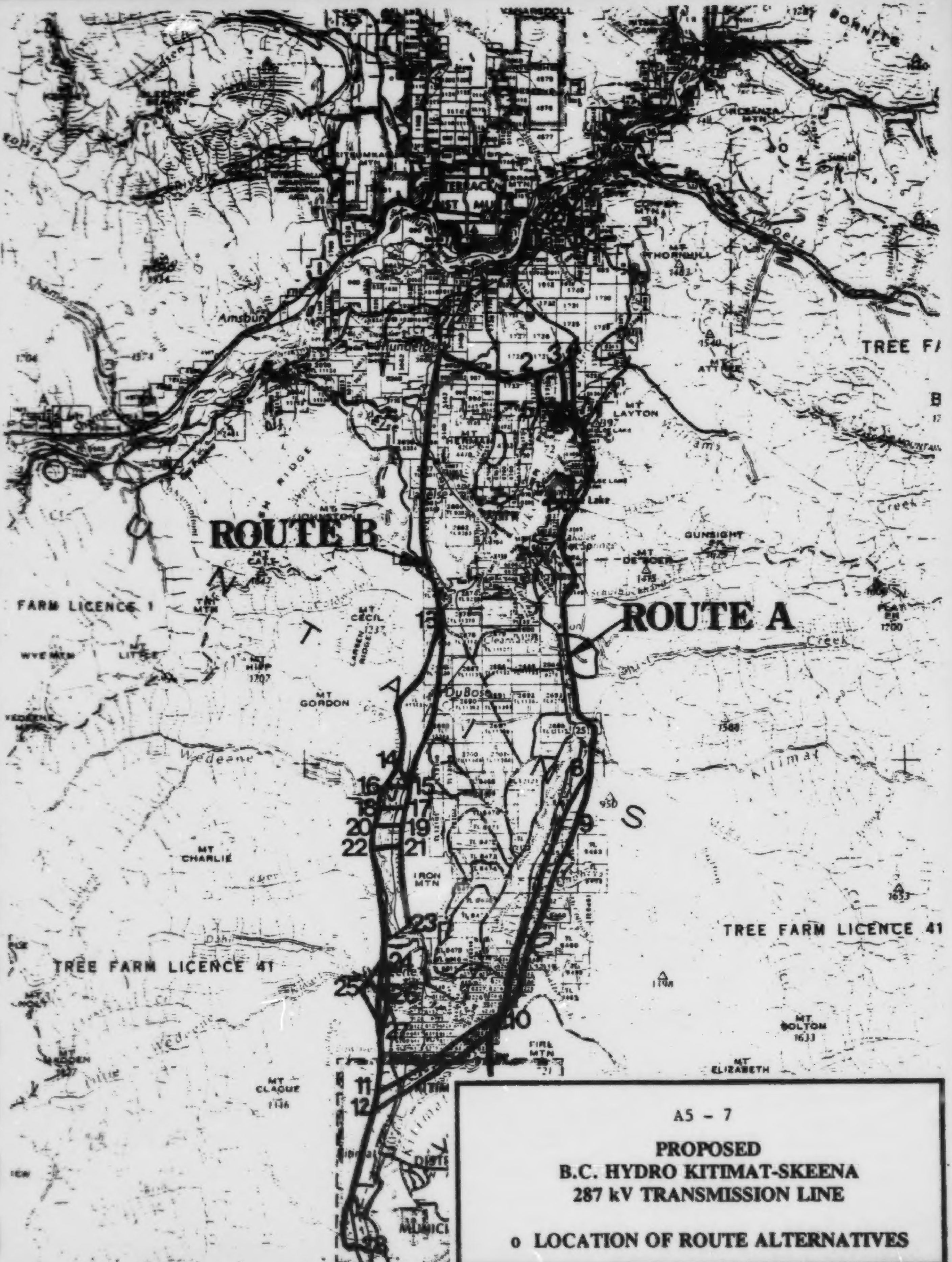
SYNOPSIS OF INDEPENDENT CONSULTANT ASSESSMENT OF ENVIRONMENTAL AND LAND USE FACTORS

The information contained in the following material was prepared by Independent Consultants retained by B.C. Hydro. Their studies examined the characteristics of each route alternative. Each consultant has provided a determination of that route which is most satisfactory with respect to a particular resource discipline (e.g. forestry, fisheries, etc.). The conclusions reached are those of the consultants and not B.C. Hydro.

The consultants working on the project are:

Forestry	**Hugh Hamilton & Associates Ltd.**
Fisheries & Wildlife	**Alpenglow Resources (Grant Hazelwood)**
Terrain	**Westland Resource Group**
Heritage	**Arcas Consulting Archaeologists Ltd.**
Visual/Recreation	**Durante & Partners Ltd.**
Land Use/Socio-economic	**Urban Systems Ltd.**

The information was compiled by Mark Walmsley of Westland Resource Group.


ROUTE B
ROUTE A
TERRACE
THORNHILL
MT THORNHILL
1403
COPPER MTN
MT LAYTON
MT ATTREE
1540
MT HERMAN
MT JOHNSTONE
MT CALL
GUNSIGHT PK
MT DE BOER
1475
Lake
Hot Springs
Clearwater
DuBose
FARM LICENCE 1
TREE FARM LICENCE 41
TREE FARM LICENCE 41
TREE FA
MT CECIL
1237
LARSEN RIDGE
MT HIPP
1707
WYE MTN
MT LITTLE
MT GORDON
Wedeene
Kitimat
MT CHARLIE
IRON MTN
MT HOLT
MT HEDDEN
MT CLAGUE
1146
FIRE MTN
MT BOLTON
1633
MT ELIZABETH
1653
1580
1200
950
1704
1574
Amsbury
Kitimat
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PROPOSED
B.C. HYDRO KITIMAT-SKEENA
287 kV TRANSMISSION LINE

o LOCATION OF ROUTE ALTERNATIVES

PRELIMINARY

CONSULTANT ASSESSMENT OF ROUTE OPTIONS

RESOURCE SECTOR	MAJOR CONCERNS	CONSULTANTS MOST SATISFACTORY ROUTE
FORESTRY	o Loss of productive forest land Route A = 870 m^3/ha/yr B = 1100 m^3ha/yr o Loss of mature timber o Loss of immature timber and silvicultural investment o Cut-off forest land o Blow down o Inventory and Research plots	ROUTE A 1-2-3-6-7-8-10-11-28
FISHERIES	o Sockeye and coho habitat in Sockeye and Williams Creeks o High fisheries impact potential in Furlong, Hatchery, Scully and Kitimat Rivers o Segment 8-10 very high fisheries impact potential due to wetlands and riparian habitat o Fisheries habitat along Kitimat River floodplain o Lakelse River crossing - high fisheries values o Coldwater Creek area has potentially high impact o Crossings of Weedene River - very high potential fisheries impact; downstream crossing has less impact (23-24)	ROUTE B 1-13-15-17-19-21-23-24-27-11-12-28
WILDLIFE	o Waterfowl nesting/rearing and moose wintering/calving in riparian habitat of Sockeye and Williams Creeks. o Marsh area in segment 5-6 important habitat for swans and waterfowl o Wetlands and riparian habitat on east side of Kitimat River (8-10) are important for bear, beaver, otter, mink, moose, small mammals and waterfowl o Crossing of Kitimat River floodplain (10-11 and 10-12) impacts important habitat for moose, beaver, mink, bear, small mammals, waterfowl, swans and raptors. o Grizzly bear habitat in vicinity of Lakelse River crossing o Crossings of Weedene River due to moose wintering and calving habitat and grizzly bear use along river; downstream crossing has less impact (23-24)	ROUTE B 1-13-15-17-19-21-23-24-27-11-12-28
HERITAGE	o Recorded heritage sites adjacent to Lakelse River upstream of crossing o Possible heritage sites near Kitimat River crossing o Heritage potential on north and east side of Lakelse Lake, along the Kitimat River, floodplain and the Weedene/Little Weedene River floodplains	ROUTE B 1-13-14-15-23-24-26-27-11-12-28
TERRAIN	o Main problems occur at crossing sites of major streams (e.g. Weedene, Kitimat); threats to line security include flooding, erosion and landsliding o Major concern is the crossing of the Kitimat River due to potential channel shifting and lateral bank instability o Highly unstable marine clays encountered on west side of Weedene o Debris torrent activity on west side of valley (Route B)	ROUTE B 1-13-15-23-24-26-27-11-12-28
LAND USE/ STATUS	ROUTE A o Need for additional ROW to accommodate pipeline o ROW traverses several sand and gravel reserves o Proximity to several UREP'S o Extensive development at lakelse Lake area o Proximity to licenced water sources o Positive impact of following common utility corridor ROUTE B o ROW traverses Crown Reserves and MOF map notations o Positive impact that the ROW located entirely on Crown land and would be in close proximity to proposed industrial areas; there are no substantive land uses in the vicinity of the route	ROUTE B
VISUAL/ RECREATION	o Lakelse and Mt. Clague Provincial Parks o Views from residential areas near Lakelse Lake	ROUTE B

SYNOPSIS OF CONSULTANTS MOST SATIFACTORY ROUTE FOR ENVIRONMENTAL AND LAND USE SECTORS

FORESTRY	ROUTE A
FISHERIES	ROUTE B
WILDLIFE	ROUTE B
HERITAGE	ROUTE B
TERRAIN	ROUTE B
LAND USE/STATUS	ROUTE B
VISUAL/RECREATION	ROUTE B

APPENDIX B

REFERENCE DOCUMENTS

SKEENA KITIMAT
REFERENCE DOCUMENTS

B.C. Hydro, An Introduction to the Twenty Year Resource Plan, B.C. Hydro, April 1989

B.C. Hydro, Environmental Resources, B.C. Hydro's Approach to Vegetation Management, B.C. Hydro, undated.

Energy Resources Division, Ministry of Energy Mines & Petroleum Resources, Guide to the Energy Project Review Process, MEPR, January 1982.

B.C. Hydro, Skeena Kitimat 287 kV Transmission Line Route Study Plan, B.C. Hydro, September 1989.

APPENDIX C

MEETING NOTES

C1 Public Meeting Notes

C2 Interest Group Meeting Notes

C3 Native Bands & Government Meeting Notes

APPENDIX C-1

PUBLIC MEETING NOTES

SKEENA-KITIMAT TRANSMISSION LINE PROJECT

FORMAT FOR FIRST SET OF PUBLIC MEETINGS

Attendees:

Dave Read, Community Relations Coordinator
Mike Gwilliam, Project Manager
Mark Walmsley, Environmental & Land Use Consultant
John Forsdick, PCP Consultant
Garry Barnett, Transmission Planning

Location:

Terrace Odd Fellows Hall - November 21

Kitimat Legion - November 22

Possible meeting with Native Bands to be confirmed

Time:

7:00 pm to review project information and to discuss concerns with project team members.

7:30 pm for formal presentation to 10:00 pm, approximately.

Objectives:

To present information on the project, particularly the justification and the route alternatives;

To gain input from participants about the project and the route selection criteria that should be considered.

To develop a sense of trust and credibility for the public consultation and planning processes, for future reference.

Notification:

The public will be notified of the meeting locations and times in 3 principle ways, including:

- phone contact with interest group interviews;
- newspaper ad to run in local papers beginning November 15th;
- an advertorial which will provide detailed project information to run in local papers along with the ads.

Setting: The setting for the meetings will take the following form:

- a medium sized room with a visual display (air photos and maps) presented at the back of the room as in the first round of meetings;
- a sign-in table with Information Papers and the Issue Response Paper at the entrance to the room;
- approximately 50 chairs facing the front of the room with an overhead and flip chart;
- coffee service.

Format: The meeting would begin at 7:00 pm with an opportunity for people to receive information and to discuss specific topics of interest with members of the project team. This would serve to diffuse potential major concerns during the formal part of the meeting.

At 7:30 pm the project team would present the project and the major issues. This would include the following:

5 min. I) Dave Read - Welcome and Introduction;
10-15 min. II) Mike Gwilliam - Brief project overview and discussion of design construction and clearing issues;
10-15 min. III) Mark Walmsley - Brief overview of the environmental and land use studies;
IV) John Forsdick - Facilitate Q & A session and route selection criteria.

Questions would follow the formal meeting. Although the PCP Consultant would facilitate the meeting, each presenter would take some questions.

Closing: J. Forsdick to close the meeting and identify future public consultation steps.

SKEENA - KITIMAT TRANSMISSION LINE
NOTES OF PUBLIC MEETINGS
Terrace, November 21 - Oddfellows Hall
Kitimat, November 22 - Legion Hall

Attendees:	B.C. Hydro	Consultants
	M. Gwilliam	M. Walmsley
	D. Read	J. Forsdick
	G. Barnett	

Both meetings began at 7:00 pm, and members of the public had the opportunity to view displays and to discuss the project with members of the project team. At approximately 7:30 pm, the project team made a presentation which included a review of the Resource Plan, an overview of the project, the environmental and land use studies, and the public consultation process. This was followed by a discussion period which focused on technical questions about the project, planning concerns and ideas about route alternatives. The following notes summarize the discussion, although they are not meant to be a verbatim trancript of the meetings.

TERRACE, NOVEMBER 21

D. Keating	Does BCH export power?
RESPONSE	This project is designed to meet domestic energy needs. BCH does however, export power which is non-firm and surplus to the Hydro system. This occurs as a result of Hydro planning its energy needs based on peak demand during low water years (i.e. a worst case situation). Since this does not normally occur, Hydro may have additional capacity that can either be spilled over the dam or sent through the turbines to generate power. This is how export presently works, and it results in financial benefits to B.C. D. Read used overheads to show periods of surplus energy in the system.
Question	Is BCH looking at alternate energy sources?
RESPONSE	BCH is closely following new advancements in energy technology, but the use of solar, wind or wave generated energy are not yet viable to meet the growing demand for energy in B.C. Hydro is looking to use a variety of alternatives to meet future energy needs including maximizing existing resources like Alcan, or use wood waste cogeneration for example.
L Watmough	Have you identified the quantity of merchantable timber on each route and what you will do with it?
RESPONSE	We will have the amount of merchantable timber on the two route options in 2 to 3 weeks time. The merchantable timber would be harvested.
S. Jay	Commented that the loss of forest resource is greater when we go through a clearcut than when we go through standing timber.
RESPONSE	Comment was noted as the immediate and long term losses of timber, plus the loss of silviculture investment.
Question	How much herbicide does B.C.Hydro use in maintaining the right-of-way?
RESPONSE	Provided an overview of Hydro's policy regarding application of herbicides and the long term goal to reduce the amount of herbicides used in the area.

	In the last 10 years, only 40 litres of roundup have been used on the existing line, and these have been applied by hand.
R. Nickoloff	The concept of the industrial corridor may no longer be valid, since the area was designated as a Kitimat forest reserve.
RESPONSE	Not aware that this has occurred, but we will discuss this with the forestry people.
Jim Reed	Which route is cheaper?
RESPONSE	Route B is cheaper; it would cost approximately $16 million to build versus $18 million for route A.
D. Webb	Concern for protection of mature trees along Lakelse River, and for the increased access to this area.
RESPONSE	Concern was noted on the flip chart.
K. Kline	Concern for bank stability at Sockeye Creek.
RESPONSE	The impact to fisheries habitat was noted as a concern for the planning issues.
L. Watmough	There would be no problem with the transmission line affecting traplines; it, in fact, helps to diversify the habitat.
Comment	Concern that the water quality (for drinking) around Lakelse Lake is maintained. Is the lake used as a drinking source for local area residents.
Response	Yes, there are a number of homes in the area that have wells.
D. Keating	Is it possible to put both lines on the existing right-of-way?
RESPONSE	Yes, but it would require more structures and may need to be higher.
G. Hazelwood	Why not move the existing line to the west side of the valley?
RESPONSE	Noted the suggestion as a possible route option. However, it was noted that this would result in higher costs, and possible reduction in reliability since both lines would be located in the same area in the event of a natural hazard.
Question	What is the difference in maintenance costs of the lines? Would not maintenance on the west side be restricted in winter?
RESPONSE	The maintenance costs for the two lines would be $30 to $40 thousand per year, but would not differ substantially if the two lines were geographically separate.
Question	What if the line is proven environmentally unacceptable?
RESPONSE	We know that there are going to be some impacts as a result of the new line, but these are not perceived to be great enough to offset the need for the line. The environmental team will also be undertaking the development of a management plan for those areas that could be impacted.

A discussion of route options identified 5 possible routes including:

Route A - development of the new line in a new right-of-way adjacent to the existing line.

Route A1 - develop the new line within the existing right-of-way as close to the existing line as possible.

Route A2 - develop a single steel lattice tower in the existing right-of-way, and consolidate both lines.

Route B - a new separate line on the west side of the valley.

Route B1 - consolidating both lines on the west side of the valley.

The group clearly supported the concept of a single corridor, whether it is on the east or west side of the valley. The concept of amalgamating the lines on steel towers on Route A received slightly more support than placing both lines on Route B.

Important concerns identified during the meeting included:

1) Loss of forestry resources on both routes including:
    - immediate losses
    - long term losses
    - access to areas around the lines for logging
    - silviculture investment loss

2) Fisheries impact

3) Visual impacts

4) Protection of mature timber stands.

5) Control access to protect resources

6) Right-of-way management and herbicide application

7) Cost of the line

8) Wildlife and waterfowl impacts for each line

9) Effect of the water supply at Lakelse Lake

10) Recreation and tourism impacts

11) Ensure that whatever is done is sufficient to meet the long term needs and that Hydro does not come back in five years for another line.

IMPRESSIONS OF THE MEETING

The meeting was attended by 18 people. plus the project team and three members of the local media which included, Jeff Nagel, (The Standard), Michael Hunter, (Northern Sentinel), and Leslie Horton, CKTK TV. The discussion that followed the presentation focused on planning issues and route options. There were relatively few technical concerns, and people seemed to understand the project and why it is proposed. The concerns that were identified had a very strong environmental basis, such that the groups suggested that Hydro pick the route option with the least environmental impact. The group also supported B.C. Hydro doing studies on the routes and coming up with the best alternative to present back to the public in the future.

The discussion was very constructive and directed towards identifying important concerns to help the project team in its efforts to determine route options. The attendees recognized the difficulty of prioritizing issues or route alternatives and the concensus was that this could not be done until the environmental analyses were completed.

KITIMAT - NOVEMBER 22

M. Corbell	What is the output of Kemano Completion, and what is the total load on the BCH system?
RESPONSE	The added output of the Kemano Completion will be 285 averabe mw. The total load demand in B.C. in 7485 mw. It was also noted that the study area is a net importer of energy and that this line will improve the reliability of the energy supply in the area.
Mike K.	What about putting both lines on route B?
RESPONSE	This would result in some problems from the point of view of significantly higher costs and reduced reliability because the lines would be together in the event of an natural disaster. The cost of putting both circuits on a double circuit steel lattice pole would be $50 to 60$ million, versus the $16 to $18 million we are now proposing.
D. Beck	Would BCH compensate holders of TFL's for lost timber?
RESPONSE	Yes, this would be part of the acquisition and compensation for the easement. Because the land is crown land however, there would be no compensation for productive land.
Question	How much land would have to be cleared on each route?
RESPONSE	About 200 hectares would have to be cleared for each route presently shown.. This would be within the proposed easement only, and some additional danger trees would have to be removed from outside the right-of-way.
Comment	The quality of the growing sites are best on Route B.
RESPONSE	Confirmed this fact and the comment was noted and written on the flip chart.
Question	Can you put the second line between the existing line and the gas pipeline?
RESPONSE	This may be possible in some areas but there are some requirements for separation. We will be discussing this option with the pipeline company.
Comment	Strong concern that the effects on fish and wildlife will be greater on two corridors than going on Route A alone. This is the feeling of the fish and wildlife associations in the area.
RESPONSE	Comment noted and written on the flip chart.
Comment	Route B will be visually damaging because a new area would be opened up.
RESPONSE	Comment was noted and visual impact written on the flip chart.
D.Beck	Have you considered burying the line?
RESPONSE	This is an option in some situations, particularly when the line is in the urban environment or for short distances. In this area the technology to place high voltage lines underground for such long distances is not well developed. Secondly, it would significantly increase the costs, by 10 to 15 times.
Question	Could the existing line be reconducted to carry additional loads?
RESPONSE	No, the structures could not stand the load, and new structures would be required at great cost.

L. Evans	When the new line goes in, can the existing line be upgraded to correct some of the problems.
RESPONSE	Yes, but at a cost.
L. Evans	What criteria will be used to select a final route? Will it come down to the cheapest route?
RESPONSE	It will not be the cheapest route, but will be determined based on all the information collected as part of the environmental and land use studies, the technical studies and cost analysis, and the public consultation program. All factors will be taken into account in the final route selection.
S. Hill	Have the routes been evaluated in terms of impact units and habitat value.
RESPONSE	Outlined the environmental program and the sensitivity studies currently underway. The studies will be ongoing for the next 6 yo 8 weeks to collect the environmental information.
D. Beck	What will be the benefit to the local areas?
RESPONSE	Outlined the possibility of tendering the construction packages in small enough unts to be manageable to local contractors, and the spin off effects from the construction process. There was also the comment that some local consultants have been hired to work on the project and local survey crews could also be hired.
D. Beck	Followed up with a comment that BCH should try to encourage training and development of people in the local area such that consultants and planning staff are from the local area also. Benefits should be long term.
Question	How many people would be employed during the clearing and construction
RESPONSE	For clearing, approximately 30 to 40; for construction about 30.
Question	Has christmas tree growing under the lines been considered?
RESPONSE	Yes, growing trees for Xmas at the Terrace airport is an example. The comment was noted that by the time the trees reach a suitable height, maintenance crews cut them down. It was suggested that people should contact Hydro's local office to get a permit for cutting along the right-of-way.
Comment	If there is a major environmental difference between the two routes and A if far more sensitive, then BCH should go to Route B. However, if all things are equal at this stage, then a common corridor should be retained.
RESPONSE	Comment noted on flip chart.
Comment	There are no fish on the east side of the valley, but there is excellent fishing on the west side.
RESPONSE	Comment noted.
Comment	Maintain the existing corridor and do not disturb new areas.
Question	Can the Route crossing at Williams Creek be moved to avoid fish habitat?
RESPONSE	Yes, we are studying different alternatives right now.

Comment Follow Route A even if things are not equal, even for the $2 million additional cost.

D. Beck Would the existing lines be able to supply future industrial load development in the valley.

RESPONSE Yes, the two lines would be able to serve most major industrial development.

M. Corbeil What is the Agreement with Alcan for? If Alcan backs out, will the line be paid for.

RESPONSE The Alcan agreement covers the purchase of 285 average mw of electricity for the next 20 years, plus a coordination agreement that will add 100 mw of electricity for that same period. There are options for renewal of the agreements following that period. The cost of the line will be paid for in this time.

Comment Alcan's original expectations were for increase in industrial development and an increase in smelting capacity. Since this has not been realized, there will likely be ample energy from Alcan to meet BCH requirements well into the future.

Question Is BCH already buying some of this power?

RESPONSE BCH recently signed an agreement with Alcan to purchase 76 mw of power for domestic needs on a long term basis.

JDF Closed the meeting and people stayed to view displays and discuss the project.

Important concerns noted at the meeting included:

1) Forestry - loss of potential forested areas and silviculture investment.

2) Fish and Wildlife - the importance of not opening up new areas.

3) Access - Better for Route A for maintenane and reduced public access

4) Visual impact and recreation

5) Ensure long term planning needs are met

6) Local economic benefits (training, consulting, management)

7) All things being equal stay on Route A and don't open up new areas.

8) Maintain a common corridor for all utilities

IMPRESSIONS OF THE MEETING

The meeting was attended by 13 members of the public, one member of the press (Lee Ellis), 2 consultants and 5 B.C. Hydro staff. After a presentation on the project, the discussion focused on technical questions, planning concerns, and route options.

The questions were asked mainly by five people and were largely focused on loss of forestry resources, fisheries, maintaining the natural environment and not opening up new areas for development. Local economic benefits were also discussed including the need to hire consultants and to train people locally. When asked about route options, the concensus was to maintain all lines within a common corridor, and to minimize expansion into new areas if possible.

The tone of the meeting was very constructive with a lot of discussion and analysis of planning issues, and the benefit and cost of various options.

SKEENA-KITIMAT TRANSMISSION LINE PROJECT

FORMAT FOR SECOND SET OF PUBLIC MEETINGS

Attendees:

Mike Gwilliam, Project Manager
Kevin Graeme, Community Relations Coordinator
Mark Walmsley, Environmental & Land Use Consultant
Garry Barnett, Transmission Planning
John Forsdick, Public Consultation Consultant

Location:

Terrace Odd Fellows Hall - February 05
Kitimat Legion - February 06
Tsimshian Trbal Council - February 07
Possible additional meeting with Native Bands to be confirmed

Time:

7:00 pm to review project information and to discuss concerns with project team members.

7:30 pm for formal presentation to 10:00 pm, approximately.

Objectives.

To provide information to the public as to how their input has been incorporated into the planning process.

To provide a comprehensive review of the alternative route corridors and the benefits and costs of each.

To respond to questions and concerns raised by members of the public.

Notification:

The public will be notified of the meeting locations and times in 3 principle ways, including:

- letters to attendees at the first meeting;
- newspaper ad to run in local papers beginning January 25;
- Radio spots.

Setting:

The setting for the meetings will take the following form:

- a medium sized room with a visual display (air photos and maps) presented at the back of the room as in the first round of meetings;

- a sign-in table with information at the entrance to the room;
- approximately 50 chairs facing the front of the room with an overhead and flip chart;
- coffee service.

Format: The meeting will begin at 7:00 pm with an opportunity for people to receive information and to discuss specific topics of interest with members of the project team.

At 7:30 pm the project team will present the project and the results of the environmental studies. This would include the following:

5 min.	I) John Forsdick - Introduction and public consultation;
10-15 min.	II) Mike Gwilliam - Brief project overview and discussion of design construction and clearing issues;
10-15 min.	III) Mark Walmsley - Brief overview of the environmental and land use studies;
	IV) John Forsdick - Facilitate discussion.

Closing: J. Forsdick to close the meeting and identify future public consultation and information steps.

SKEENA-KITIMAT 287 kV TRANSMISSION LINE PROJECT

SECOND TERRACE PUBLIC MEETING
Terrace OddFellows Hall, February 05, 1990

Attendees:
Kevin Graeme
Mike Gwilliam
Gary Barnett
Mark Walmsley
John Forsdick
M. Meyers (Production)
N. Stevensen (Production)

Public Attendees: 12

Press:
L. Horton - CFTK
J. Nagel - Terrace Standard
T. Strachen - Terrace Review

Kevin Graeme: Introduced Project Team Members and Production Staff to the audience.

John Forsdick: Provided an overview of the public consultation program, the purpose of the meeting, and an explanation of how to complete the public opinion evalutation form.

Mike Gwilliam: Provided a description of the project, the rationale and the CPCN application process.

Garry Barnett: Outlined the technical criteria for analysis of alternative routes and tower/line design options. A summary of the analysis was given to those attending the meeting.

Mark Walmsley: Provided a detailed presentation of the results of the environmental studies using map overlays. A summary of the results of the environmental studies was provided to those attending the meeting.

Meeting Notes

QUESTION: What does "land use" mean?
Response Explained existing status, e.g. Crown Land; agriculture, etc.

QUESTION: Why is Hydro building this line? Why should B.C. people pay for a line?
Response The line is needed to transmit power to be purchased from Alcan for use in B.C. If we can delay major generation projects by purchasing power from Alcan, it will major expenditures to build new projects.

Comment: That's your answer but I don't agree with it.

QUESTION: What is the completion date for the line?
Response October 1994 is the proposed completion date.

QUESTION: What will you do with merchantable timber?
Response It would be sold. There would not be any need for helicopter logging.

QUESTION: Is it important to get rid of the alder?
Response Yes, for line security, a 6 metre clearance is needed between the conductors and trees.

QUESTION: Will you use hand or mechanical clearing?
Response Both will be used.

Comment: This would create employment in the area.

QUESTION: How many Consultants were used?
Response Six were used to undertake the environmental and land use studies.

QUESTION: When will the clearing be put out to bid?
Response 1993.

Comment: You should get it done today while it's cheap.

QUESTION: Does the $42 million cover the tower installation?
Response Yes, it does for double circuiting the lines.

QUESTION: If Route A is chosen it would cross my trapline. How does B.C. Hydro plan to compensate me for this?
Response B.C. Hydro will provide compensation if the trapline is impacted This will be done through Hydro's Trapline Compensation Program.

QUESTION: What will Hydro do to protect the environment?
Response If the line is approved, measures will be taken to avoid sensitive environments and habitats.

QUESTION: What about herbicides/pesticides?
Response B.C. Hydro is working to minimize the use of herbicides and pesticides and is striving to establish a self sustaining plant community.

Hydro does use herbicides; in the last 10 years, approximately 40 litres of herbicides have been used in the area. Hydro uses round up which is not considered toxic to wildlife.

Comment: When B.C. Hydro built the other lines, it wasted all of the timber and caused a lot of environmental impacts.
Response B.C. Hydro will address environmental impacts, and the merchantable timber will go out for tender as part of the clearing contract.

QUESTION: How long ahead of time (before construction) did your studies take place?
Response The studies are now underway and clearing will not begin before 1993.

QUESTION: When will the environmental studies be available for the public?
Response In late March; we will notify people on our mail list and will place the studies in the library.

Comment:	The difference between Route A and B: B - less desirable because small industrial plants will pop up along the line; A - is the best.
QUESTION:	Have you assessed the maintenance costs between the routes?
Response	The maintenance costs will be similar; the exception is the access to the lines which will result in a difference; maintenance on Route B would be approximately 20% higher.
Comment:	Department of Fisheries and Oceans' position is that there should be no net loss of habitat. Twinning the line is DFO's position for Route A.
QUESTION:	Would there by any widening with a double circuit line?
Response	There may be some but not an entire widening. There would however be a larger visual impact.
Comment:	A member of the public read from an arbitration hearing in 1967 - "I was offered $280 for my property when B.C. Hydro put the first line in. It went to arbitration and I was awarded $1600. Chinese Proverb: Color of tiger's stripes never change."
QUESTION:	Do you want to tell us that Hydro is good?
Response	No, but that Hydro is here to listen to your thoughts and concerns about this project in an effort to make it better.
QUESTION:	When Alcan is completed how much power will B.C. Hydro be purchasing?
Response	On average, approximately 285 MW.
QUESTION:	What was the response from the Ministry of Forests?
Response	They have not provided a final response but generally they support Route B.
QUESTION:	How much timber is lost when comparing routes?
Response	1100 cu.metres/ha./year on Route B vs 800 cu.metres/ha./year on Route A.
QUESTION:	How much land area does that represent?
Response	200 - 250 hectares on Route B, and 150 - 200 hectares on Route A.
QUESTION:	Did your environmental assessments take into account the problem of creating a barrier for wildlife?
Response	Yes, however it is not expected to be a significant factor with larger species. This only becomes a potential problem in right-of-ways with 3 or more major transmission lines and in these cases, mitigation measures are considered.
Comment:	We have an existing corridor. There is a difference between adding a line and building a new one.
Response	Yes, but the biologists are saying don't add insult to injury.
Comment:	Is cost the greatest criteria for route selection.
Response	No, other factors such as system reliability and environmental impact are equally important.

QUESTION:	What about larger conductors?
Response	Yes, but it's up to the planner. We can look at this but it does not give us the degree of reliability and it would increase costs because the existing structures would have to be rebuilt in order to accommodate larger conductors.
QUESTION:	You ask Route A or Route B. Why not consider not building the line?
Response	This is a valid option, but it is a matter of tradeoffs in providing new sources of energy to meet the growing demand in B.C. If this line is not considered then other alternatives such as new generation would have to be considered. To B.C. Hydro, maximizing the use of existing resources is the first choice before building new projects.
NOTE:	A vote was taken for not building the line and there was no support for this option.
Comment	Stick with Route B.
QUESTION:	I don't understand the recommendation of the consultants to choose Route B.
Response	The recommendation is based on detailed environmental studies which looked at the comparative impact of the two routes.
Question	Would the easiest solution to the demand/supply problem be to stop selling to the U.S.?
Response	Currently, there is no power being exported to the U.S., except at border points such as Point Roberts and in Alaska where service coordination makes sense. Hydro does however export electricity which is surplus to Hydro's system, and which is not needed in B.C. This results in economic benefits to the province.
QUESTION:	What is the point of the intertie if we're not selling to the U.S.?
Response	To provide system security in emergencies and to manage electrical demand on a continental basis.
QUESTION:	What does Hydro think about the potential steel mill?
Response	It has been only a proposal, but we were aware of it through information provided by the Regional District.
QUESTION:	When do you expect the Environmental Studies to be available?
Response	End of March.
QUESTION:	When are you planning to apply to BCUC?
Response	End of March.
QUESTION:	What about atomic power?
Response	This is not considered a option by B.C. Hydro according to the Twenty Year Resouce Plan.
Comment	You should bring power smart more into schools.

IMPRESSIONS OF THE MEETING

The meeting was well-advertised, but attended by only 12 people, 3 press and 7 Hydro employees and consultants. Of those attending, 5 people were there for the first time and efforts were made to ensure that they had a clear understanding of the project.

The public seemed generally surprised at the outcome of the environmental studies and the fact that all but the forestry consultant's study identified Route B as having least impact. A number of individuals expressed a keen interest in reviewing the results of these studies when they are available.

One individual expressed skeptism with B.C. Hydro and its planning and public consultation studies. Members of the project team addressed this person's questions during the meeting and in the discussion period which followed. However, the individual was convinced that the meeting was a public relations exercise and had no value because Hydro would not agree to place the line on Route A, the common corridor.

During the meeting the consultant had the public complete route evaluation forms, and also took a vote on what they perceived is the best route. The poll favoured the Route "A", by a margin of 8 to 4. The reason for this appears to be the desire for a common corridor and possibly some skeptism in the results of the environmental studies. The Consultant noted that B.C. Hydro will make these studies available to the public.

The results of the evaluation are outlined below and show the comparative results from Terrace and Kitimat.

SKEENA-KITIMAT 287 kV TRANSMISSION LINE PROJECT

SECOND KITIMAT PUBLIC MEETING
Kitimat Legion, February 06, 1990

B.C. Hydro Attendees:	Kevin Graeme Mike Gwilliam Garry Barnett M. Walmsley John Forsdick	M. Meyers (Production) N. Stevensen (Production) D. Read
Public Attending:	17 (see list attached)	
Press:	Rosalina Cordeiro - Kitimat Sentinel Lee Ellis - CKTK Radio	

Kevin Graeme:	Introduced Project Team Members and Production Staff to the public.
John Forsdick:	Provided an overview of the public consultaton program, the purpose of the meeting, and an explanation of the public opinion evalutation form.
Mike Gwilliam:	Provided a description of the project, the rationale and the CPCN application process.
Garry Barnett:	Outlined the technical criteria for analysis of alternative routes and tower/line design options. A summary of the analysis was given to those attending the meeting.
Mark Walmsley:	Provided a detailed presentation of the results of the preliminary environmental studies using map overlays. A summary of the results of the environmental studies was provided to those attending the meeting.

Notes of the Meeting

Question:	What other smaller distribution lines are on this R/W?
Response	The old 69kV has its own R/W; the majority of the line is out of service except for the section from Terrace to Lakelse Lake, and a portion of the line north of Kitimat to Cable Car Subdivision. The line has to remain in service to supply electricity to these customers.
Question:	Have you contemplated two wood pole lines on Route B?
Response	This is considered as a possible option, however the cost would be about $32 million.
Question:	Would there be compensation for wood lost?
Response	Yes, any merchantable timber would be taken out and would be covered in the clearing contract.

Question: Have you considered an 800 MW conductor rather than 2 - 400 MW:
Response No options have been ruled out, although a larger conductor would be more expensive because of the need for stronger structures to support it.

Question: Special considerations - is that environmental?
Response No, it's only technical information; Mark Walmsley, the Environmental Studies Coordinator, will provide an overview of these studies.

Question: How can you justify opening a new R/W when the impact would be so severe and the $2 million difference is relatively small.
Response We will answer your question through Mark Walmsley's presentation. However, it is important to keep in mind that cost is not considered to be the determining factor in the selection process at the present.

Question: Is it logical to assume that Hydro would not remove one line?
Response Not entirely, but it is more cost effective, and provides a higher level of security and reliability to have two lines.

Comment: I disagree with your consultant, that the visual impact would be less on Route B.
Note: There was general agreement at the meeting that visual impacts would be greater on Route B.

Question: Did the land use consultant talk to the province about using Route B and removing land from the Provincial Forest? I would suggest that the land use status is not as simple to resolve as it would appear.
Response We have contacted the provincial resource agency responsible for the Provincial Forest, but we have not discussed removing the land from the Provincial Forest. This will be done if Route B turns out to be the best option.

Question: There will be stability problems on Route B. Did you talk to CN about slope instability along the rail line?
Response There are unstable areas on Route B, but less so than on Route A. Regardless, measures can be taken to span or design around unstable areas.

Question: I would like you to request that when the BCUC holds hearings on this project, that hearings are held in Kitimat so local people can have input.
Response No decision has been made on the best route, or on hearings on the project. This will be determined by the BCUC after the application has been submitted.

Question: Would you request that the BCUC have hearings in Kitimat?
Response We will note your request in our report.

Question: A concern was expressed about not enough notice for the meetings and insufficient opportunities for public input.

Note: This comment was made by the editor of the Northern Sentinel (local paper).

Response Responded by outlining the scope of the public consultation process, the meetings with interest groups and the public in November 1989, and the advertising for the meetings which had taken place for two weeks prior to the public meeting.

NOTE:	The Consultant had set up a press interview on the project with this individual approximately one week prior to the public meetings, and had noted that the advertisement for the meeting had been placed in the Northern Sentinel.
Question	How many people attended the last meeting?
Response	Approximately 18 turned out to hear about the project and to identify their initial concerns to us.
Question	Have the heritage consultants had any discussion with the native bands, specifically the Haisla band about heritage sites. How can you make a recommendation on a route when you have not consulted some of the key groups?
Response	I am not certain of all of the contacts made by each consultant, but I would assume that if the Band had pertinent information, you would have been contacted. I do know that our Land Use Consultant contacted you directly. The heritage consultant did a lot of work revelwing archeological records. If you have information that would be valuable, we would be glad to receive it. It is important to note that our studies are not 100% complete and are still being finalized as new information becomes available.
Comment K. Hodgins	The Haisla Council prefers Route A because of further alienation required on Route B.
Question	Could B.C. Hydro hire other consultants to review and redo the work of these consultants?
Response	It is very unlikely that this would occur. The Consultants are very competent and have given their professional and unbiased analysis.
Question	Why do you bring in someone from the south to tell us what we should be doing?
Response	The consultants come from throughout B.C., not just the lower mainland. In fact, one of the consultants lives in Terrace. Regardless, a consultant does not necessarily have to live in the community to understand what is important about fisheries or wildlife habitat.
Question	What I see has happened is that you have taken the public's comments from the first set of meetings and told the consultants to refute what we want.
Response	The consultants had a specific terms of reference for their studies, and they were independent of Hydro's public consultation program or technical studies. Their work has to be unbiased and credible, particularly since they may be required to defend their studies to the B.C.U.C. Secondly, no decision has been made with respect to which option is the best. The environmental, technical and public consultation studies must all be taken into account when determining the best option.
Question	Is it possible to get a copy of the terms of reference for the studies. (editor, Kitimat Sentinel)
Response	Yes, I can have these sent to you if you give me your name and address after the meeting.

Question	How could the consultants have such an opposite opinion from what the public is saying?
Response	Outlined the nature of the studies, that public consultation is only one component and that other studies have their own mandate and may result in different conclusion.
Question	What was the purpose of the first set of public meetings?
Response	The first set of meetings was designed to present the project, and to identify important concerns that should be taken into account in the planning process. Examples of issues identified at the first set of meetings included forestry, fisheries, EMF and visual impacts.
Question	Speaking of EMF, it already occurs as a result of one corridor. Why cause more problems. What is known about EMF?
Response	EMF has not been a major issue on this project, possibly because the lines are not near that many residences. A possible concern could be the effect on animals but research studies have not shown any harmful effect. Information on EMF is provided in your library, and there is a comprehensive bibliography and a contact person identified should you want additional information.
Question	Why did you put the line there in the first place?
Response	Since none of us were around at that time it is difficult to say why it is there as opposed to another location. Presumably, it could have been because of the location of the highway. However, I am not convinced that we would pick the existing route for the line if we were starting all over again.
Question	Can you span the river crossings so that there is no impact?
Response	Yes, we can span potential impact areas. But the length of the span does have an impact on the design of the towers and the type of structures required.
Question	If you double circuit route B, could you get rid of the 69 kV line.
Response	No, because the 69 kV line operates at 25 kV and provides service to residential areas at both ends of the line; it is only out of service in the middle section.
Question	Are you using the existing 287 kV line to capacity?
Response	Yes, we currently are and the line does not have the capacity to transmit the additional electricity from Alcan into the B.C. Hydro system.
Question	How much value is placed on public input?
Response	Outlined the role of the three types of studies (environmental, technical and public consultation) which will be considered in the analysis of route options. The public consultation report will outline all of the concerns identified at public meetings, and the regulatory authorities will be aware of these.
Question	The crossing of the Kitimat River is the only concern on Route A, but you have three crossings on Route B.
Response	The problem with the crossing of the Kitimat River is the length of the crossing and the limited route options. However, on Route B, the crossings are relatively short and there are a variety of points at which the crossing can take place.

Question	If you take out the forest around the Wedeene at these crossing points, will that not affect the stability of the river and present problems to you.
Response	The terrain scientists and geologists believe that the terrain will be safer along Route B, particularly because of the amount of bedrock in the area and the smaller nature of the river compared to the Kitimat River which is causing alot of erosion.
Question	What is the life expectancy of the new line?
Response	Approximately 30 to 40 years for the wood pole structures.
NOTE:	At this point people were beginning to leave and have their own discussions. The Consultant then closed the meeting and thanked all for attending, and stated that the project team would remain until all questions and concerns had been addressed.

IMPRESSIONS OF THE MEETING

The meeting was attended by 17 people, plus 2 representatives of the press (radio and local paper) and 7 B.C. Hydro Staff. The presentations focused on the results of the environmental and technical studies as they related to each of the corridors.

At the outset of the discussion, one individual expressed a concern about notification for the meeting and the level of awareness about the project. It was noted that meetings had been advertised on radio and the local papers for two weeks, and that people on the mail list had also been contacted directly. The person expressing this concern is the editor of the Kitimat Sentinel, and appeared to be the only person at the meeting concerned about this.

People at the meeting questioned the results of the environmental studies, and suggested that mistakes must have been made by the environmental consultants. There does not appear to be a good understanding that impacts between the two corridors are relative. Rather, people see this as a new corridor versus an existing one.

Generally, it would appear that the public feels Route A is slightly more sensitive based on the comments received and the results of the informal survey at the meeting (attached). There was support for placing the new line on Route A, and maintaining a common corridor.

SKEENA KITIMAT
PROPOSED 287 kV TRANSMISSION LINE
PUBLIC OPINION RATING

(Meetings held February 5 and February 6, 1990)
(see next page for instructions)

Criteria	Importance 1 - 3 Terrace	Importance 1 - 3 Kitimat	Route A and Area (H, M, L) Terrace	Route A and Area (H, M, L) Kitimat	Route B and Area (H, M, L) Terrace	Route B and Area (H, M, L) Kitimat
ENVIRONMENTAL						
Forestry	2.1	2.6	1.66	1.8	2.6	2.4
Fisheries	2.9	2.7	2.8	2.6	2.2	2.0
Wildlife	2.9	2.6	2.6	1.8	2.1	1.8
Heritage	1.2	1.9	1.1	1.8	1.4	.8
Terrain	1.6	2.1	2.1	2.1	2.0	1.2
Land Use	2.2	2.5	2.7	2.0	1.4	1.6
Visual & Recreation	2.0	2.5	2.6	1.8	1.6	1.8
Other						
TECHNICAL						
Cost			Incomplete			
Service			Incomplete			
Other						
COMMENTS						
TOTALS			15.56	13.9	13.3	11.6

Step 1: Assign a value of 1 - 3 for each of the criteria in the first column.

Step 2: Using information during the presentation, and based on your opinion, rate each factor as to High Impact or Importance, Medium Impact or Importance, or Low Impact or Importance.

How to Read the Evaluation Form

The route evaluation form was given out to all attendees at the public meeting, and they were asked to complete the form during the meeting according to the following instructions:

1. determine the comparative importance of each of the environmental criteria using a scale of 1 to 3 with 1 being low importance and 3 high importance. This value is used as a weighting factor. Any value could be used; for example, if the person felt all of the criteria are very important he/she may choose to assign a value of 3 to each of them.

2. based on the individual's opinion and the information presented, rate the sensitivity of each criteria for each alternative route using high sensitivity (value of 3), medium sensitivity (value of 2), and low sensitivity (value of 1).

3. survey forms were then compiled for each community and the scores averaged. The average weighting of the criteria has been multiplied by the numerical importance value assigned to each route to arrive at a final score.

APPENDIX C-2

INTEREST GROUP MEETING NOTES

SKEENA KITIMAT
INTEREST GROUP INTERVIEWS

GROUP	INTERESTS/CONCERNS	ACTION/INFORMATION
Terrace Hydro Employee Group	- Crossing of creeks and rivers on the routes.	- District office to put background information on herbicide use together.
	- Use of herbicides.	
	- Route B is not a common corridor therefore a new area of impact. However, there may be more environmental concerns on route A including geotechnical concerns near Sockeye/Williams Creek and a mudslide on the east side of Lakelse.	
	- Concerns re the bidding process not being the same as on the Stewart Line where the native bands received preferential treatment.	
Kitselas Band Mel Bevan	- Band interested in benefiting from projects even though in the land claims area.	
	- Reserve area up river was suppose to get power but the deal fell through.	
	- Trap line will be impacted.	
	- Area heritage sites in the area that will have to be studied. The Band may have information on these areas.	- M. Walmsley
	- The Band is having a meeting to discuss their approach to and benefits from these types of projects on November 2, 3 + 4.	
Kitimaat Band Ken Hodgson Gerald Amos	- Band cannot agree or disagree right now but need B.C. Hydro to help them make a decision.	
	- Would like to see some independent review of the environmental studies because of past Alcan problems.	- M. Walmsley - Send Terms of Reference and copy of meetings
	- Concern about loss of territory and their rights.	
	- Concern about land claims and need to make this concern known.	

Kitimat Regional District	- Prefer the Route B option because it opens up the west side of the valley to new development and also ensures some security of supply.	
	- Prefer separate meetings for Terrace and Kitimat.	
	- Fisheries, hunting and EMF will be the major concerns.	
City of Terrace and Regional District	- Will be a forestry impact on Route B.	
	- Alternative use of the ROW for christmas trees.	
	- What is the savings in line losses if line is 10 km shorter (i.e. Route A vs Route B).	- MPG
	- Need two meetings; one for each community.	- PERC
	- Concern of impact to the north and the south gets the benefits.	
Kitimat B.C. Hydro Employee Group	- Local people interested in jobs.	
	- Will be concerns about export power.	
Rod & Gun Club	- No show.	
Ski Club Terry Brown	- Group uses the area between the two route options as a cross country ski area.	
	- Ski trail area being developed south of Lakelse.	
	- Is snowmobiling and skiing under the lines.	
	- Route B would have the greatest visual impact.	
	- Group would eventually like to have ski trails lighted and power into their proposed building.	
Kitimat Chamber of Commerce	- B.C. Hydro should decide on which route options to pursue before going public.	
	- No economic benefits.	
	- Major concern about loss of forest land.	
B.C. Trappers Association (40-50 members locally)	- Route B would affect 3-4 trap lines, 2 native and 2 white: Art Cross - Kitimat, Steve Bell - Kitimat, Ray Brent - Kitimaat Village.	

	- Very concerned with herbicides. - Clearing may enhance the habitat in the area. - Prefers Route B for security reasons and that it opens up new country.	
Skeena Protection Coalition Linda Bretfeld	- Local environmental group (30 people) concerned mainly with urban issues. - Wants EMF information but cannot get it.	- K. Gibney
Kitsumkalum Band - Alex Bolton	- Five key issues: 1) Tsimshian Land Claim Area. - Wants B.C. Hydro to help lobby the Government to settle this. 2) Resources/Environment - Must make B.C. Hydro studies available to the Band for review. Initially make the Terms of Reference available. 3) Herbicides - Oppose any chemical use in the land claim area. 4) Kemano II Completion - Very concerned about the loss of aquatic habitat. 5) Domestic vs export - Do not want to see project built for this purpose. - Prefers Route B.	- M. Walmsley
Steelhead Society (50 members)	- Should limit herbicide application - Preserve old growth forest. - Concerned about increased access for sport fishing and hunting pressure. - Present impact to Coldwater Creek, which is a small but vital chinook habitat.	
STOP Rene Nikaloff	- Major concern is minimizing the application of herbicides regardless of the route selected.	

Alcan Police Pistol Shooting Club (also on Kitimat Rod and Gun Club) Don Ferguson	- Located on Alcan's property, north and west of the proposed substation expansion. - Concerned about the last part of the new line crossing the gun club range site.
On Site Visit	- Met with G. Barnett, M. Walmsley, J. Forsdick on site to review route alignments and site orientation. - Determined that the line could be designed not to affect the gun club site. The existing 287 kV and the proposed line will be situated between the gun club access road and the water tower south of the road. It would not impact the range directly but would require a new access road to be built at the north end of the site.
B. C. Wildlife Federation Gil Payne	- Includes 38,000 members province wide. - Local area has 300 - 400 members. - Concerned about use of herbicides, maintaining a common corridor problems with new access if Route B goes ahead.

APPENDIX C-3

NATIVE BANDS AND GOVERNMENT MEETING NOTES

SKEENA KITIMAT
287 KV TRANMSSION LINE PROPOSAL
MEETING WITH TSIMSHIAN TRIBAL COUNCIL
Prince Rupert, February 07, 1990

Attendees:

Ted Wilson - Hartley Band
Francis Lewis - Kitkatla
Chris Bolton - Kitsumkalum
Alex Bolton - Kitsumkalum
Wilfred Hackson - Kitkatla
G. Barnett - BCH
M. Walmsley - Consultant

Matthew Hill
Bob Sanke - Lax kwaalams
William Clifton - Hartley Band
S.J. Peau - Hartley Band
D. Read - BCH
K. Graeme - BCH
J. Forsdick - Consultant

Purpose: To present the project and to receive any comments or concerns.

The meeting began with introductions of all attendees. Dave Read introduced members of the project team and Gary Barnett provided an explanation of the project and its rationale. Mark Walmsley then provided an overview of the the land use and environmental studies. At the end of the presentations, the project team requested any questions or concerns of the Tribal Council. J. Forsdick reaffirmed that the intent was to provide the information today and that comments could be sent to Hydro via the contact number and address provided. All members of the Tribal Council were given information kits for reference.

Summary of Questions

Question	Will the studies be available to the public?
RESPONSE	Yes, either through the library or sent directly to you if you desire.
Question	Is there an environmental preferred route?
RESPONSE	The environmental consultants have identified what they feel are the impacts of the two route alternatives, but a route has not yet been selected. While B.C. Hydro has not selected a preferred route, the environmental studies tend to favour Route B.
Question	Will there be a socio-economic study done?
RESPONSE	Yes, it is currently underway.
Question	Have you looked at combining the circuits on one structure in the right-of-way?
RESPONSE	Yes, but the cost would be nearly 2.5 times as great. i.e. $30 to $40 million.
Question	Would there be opportunity for public involvement between the application and the studies being finalized?
RESPONSE	Yes, any comments or ideas will be taken into consideration regardless of the status of the application.
Question	Our major concerns are with heritage sites in the Lakelse area, and about the use of herbicides in the right-of-way maintenance.
RESPONSE	Outlined scope of the heritage studies and the vegetation management policy of B.C. Hydro.
Comment	You can work with Bob Sanke with respect to identification of heritage sites.
RESPONSE	M. Walmsley promised to have the heritage consultant contact B.Sanke.

Comments from Tribal Council	- The Tribal Council has to be cautious about getting involved because of the action being taken against Alcan by the Haisla Band. - We would like B.C. Hydro to help lobby the provincial government to renegotiate our land claims. - Please send a copy of the terms of reference for the environmental studies to Alex Bolton of the Kitsumkalum Band.

Dave Read then closed the presentation by providing some background information on the Energy Forum in Prince George on May 06, 07 and 08.

SKEENA KITIMAT 287 kV TRANSMISSION LINE
Notes of Interministerial Meeting
Terrace District Hydro Office
Feb. 20, 9:00 a.m.

Attendees :

J. Hipp, Dept. of Fisheries and Oceans
U. Orr, Dept. of Fisheries and Oceans
K. Stuart, Ministry of Environment
H. Quast, Ministry of Forests
J. Perras, Ministry of Forests
K. Howarth, Ministry of Forests
M. Gwilliam, B.C. Hydro
K. Graeme, B.C. Hydro
M. Walmsley, Westland Resource Group
M. Myers, B.C. Hydro
J. Forsdick, PERC

Meeting Objective:

- to review and discuss provincial and federal agency interests and positions on the proposed transmission line;
- to arrive at some consensus as to the issues and concerns, and the best route option.

Introduction:	M. Walmsley
Project Overview:	M. Gwilliam
Environmental Studies Overview:	M. Walmsley
Results of Public Consultation Process:	J. Forsdick

Discussion:

J. Hipp	What would be the value of the timber lost?
M.W.	*Hydro has not worked out the detailed value, but productivity lost on Route A would be approximately 870 cu.metres 1 ha/year, compared to 1100 cu.metres 1 ha/year, on Route B. In today's terms, a cubic metre of timber is worth approximately $200.00. Determining the long term cost would require determining appropriate discount rates which can result in some confusion or debate about the value.*
U.Orr	What is the life of the poles?
MPG	*The book value of the poles is 35 years, however, the line may last longer given proper maintenance and pole replacement.*
U.Orr	Would it not be cheaper to discount the cost over 80 years the same as Alcan is doing, and then use that figure to determine the value of some of the other more expensive options?
MPG	*We can review the capital cost analysis and the amortization period, and provide you with the figures.*

Question	Why can't you use the unused portion of the 69 kV live for the right-of-way?
MPG	*The right of way for the 69 kV line is not wide enough; it would impinge on the road right of way.* (Note: Inspection of the right-of-way by the project team later that day verified this). Ministry of Highways has long range pllans to four lane the highway. *There are also some constraints with trying to stay in the existing right-of-way because of the location of the natural gas pipelines.*
J. Hipp	DFO's position is that we prefer consolidating both lines on double circuit structures on Route A. The technology is available to overcome many of the problems you have identified with access and construction along the existing corridor.
MPG	*The technology is there for a cost, however, we are still very concerned about the potential problems with construction and moving equipment through these wet areas.*
Question	When you say public, what do you mean?
JDF	*In this particular project, we define public in its broadest sense and includes those attending meetings, interest groups, local and regional governments, and political representatives. Because of the extent of public notice and awareness of the project we feel that the views heard to date are representative of public opinion.*
J. Hipp	What is the public saying about double circuiting tie lines?
JDF	*I am not sure that we have an accurate reading. My impression is that they would favor double circuiting and consolidating the lines in whatever manner possible.*
J. Hipp	Why do you have to cross the lower Kitimat? Why can you not go around and just north of the Kitimat Arm?
MPG	*We looked at that, but did not consider it too seriously because of the location of the line to nearby subdivisions and the Indian Reserves, and also wetland areas, and crossing a Provincial Park..*
U.Orr	Did you view the alignment along Alcan's Rock Point option?
MPG	*No, we did not consider that as an option.*
Question	What type of security assessment do you do?
MPG	*We have one of our technical people assess land stability, access and potential trees falling into the line.*
U.Orr	Has the existing line ever been subject to a stability problem?
MPG	*It has been close due to the eroding of the river. Last year about $80,000 was spent for rip rap on the Kitimat River crossing.*
Question	When you look at line security, do you look at vandalism.
Beril	*Yes, we sometimes get insulators shot out, but it is a routine problem that would not likely differ between the lines. Route B could be more affected that Route A.*
MW	*Reviewed interministerial review process and asked Ministry of Environment for their thoughts about Route A or B. What can be done , if anything, to mitigate potential impacts on Route A to make it more acceptable?*

K.Stuart	Identified a concern about stating a preference for either route because of a lack of information. The Ministry would like to see the environmental reports prior to making any decision. MOE also expressed some concern about the differences of opinion amongst the Ministries, and attributed this to a possible lack of common information about the project.
K.Stuart	Do the consultants reports consider the environmental impact of double circuiting.
MW	*No, but the impacts would not differ substantially. They could be asked to look at this option.*
K.Stuart	MOE's preliminary opinion would be to double circuit Route A where there are environmentally sensitive areas. MOE is concerned about right of way expansion, but access and maintenance is not as great a concern.
K.Stuart	Is double circuiting feasible from Sockeye to Williams Creek? That should be looked at by the consultants.
MW	*Provided a commitment to review this option.*
MW	*What about reviewing the information and then having another meeting to discuss the alternatives once again?*
Question	What sort of deadline are we looking at? When would the reports be available?
MW	*Probably by the end of March, although we will try to get them out sooner if possible.*
J. Hipp	Do you have a selected route in the application to the BCUC?
MPC	*Not necessarily, there are two options. We can go with both routes and identify all of the impacts and costs and let the BCUC make a decision, we can request an independent adjudicator, or we can select the best option ourselves and put it forward. The strategy has not yet been worked out. Regardless, the BCUC will make the final decision.*
K.Stuart	I take it that you want concensus to avoid any disaster in the application review.
MW	*It would be preferable to work out any problems ahead of submitting the application.*
J. Hipp	Maintenance and access, particularly vegetation management is a concern to me.
MPC	*Construction on wet access is my concern. We need to know well ahead of time what the Ministries see as the major concerns and constraints with any route we identify. This will affect the type of access roads, the timing of the construction process, and the type of machinery we can use.*
U.Orr	What type of tensioning machine would you use?
MPC	*A puller and a tensioner probably mounted on flatbeds. We would use a crane for setting poles. I would suggest that we tour Route A with DFO and MOE after the snow melts to identify critical areas.*
MW	*The access issue if not only a cost factor but one of timing because of the limited fisheries windows allowing access .*
K.Stuart	The most severe constraint will be a one month construction window on spawning habitat that you will have to work within.
Note:	**A discussion ensued about different time frames and the costs and limitations imposed by restricted construction schedules.**
K.Stuart	I would like to see the access maps for the existing line.
MPC	*I will make sure these are passed along to you.*

MW *To Forestry: Are there significant concerns that will change between the routes in the selection process.*

H.Quast Not really, ours is purely a mathematical position. We cannot afford the loss of the forest land base in the area. The impacts are cumulative in that each project eats away at the forest base.

MW *Would the Ministries consider a steering committee?*

J. Hipp Yes, via an environmental coordinator to liaison between contractor/proponent and the resource agencies.

Question What is the process for application to the Lands Branch?

MW *An application will be made .*

K.Stuart There should be one person to coordinate the referral and response process to ensure all Ministries are incorporated.

U.Orr Are your design people in-house?

MPG *Yes.*

J.Hipp Do you want a further opinion from us?

MW *Yes, because of the range of alternatives we would like to know it some of the mitigation techniques in the environmental reports would cause you to consider another alternative.*

MW *A commitment was made to have the environmental reports to the Ministries by late March. Two weeks after that a meeting would be called. A tentative date was set for April 19 and 20 to walk the line and discuss route options.*

SKEENA KITIMAT 287 kV TRANSMISSION PROJECT

NOTES OF MEETING WITH HAISLA BAND
AT 2:15 P.M., MONDAY, 19 FEBRUARY 1990
BAND OFFICE

ATTENDING:	B.C. Hydro	Haisla Band
	John Forsdick	Gerald Amos - Band Chief
	Kevin Graeme	Ken Hodgins - Band Manager
	Mark Walmsley	Charles Shaw - Councillor
		Ray Green - Councillor

Ken Hodgins

- overview of history of consultation process;
- overriding concern - alteration and discussion of land claims;
- reiterated Hydro's inability to decide;
- Band concerns with Alcan's transmission lines (emf).

John Forsdick

- introduced members from the Project Team;
- explained roles of each;
- the consultation process is very open; we want to bring all the information available to the process;
- walked them through the Project Information Kit contents.

Q. Why can't you follow CNR rail line?

Mark Walmsley

A. Environmentally it is more difficult. It is technically difficult and expensive to bend lines that often......

Q. Has Route B been logged off?

Mark Walmsley

A. Yes, and been replanted by Forest industry.

Mark Walmsley

- explained his handouts (from the Information Kit), especially route selection options;
- two fields of studies, Fish & Wildlife and Forestry will weigh heavily in determining route, although all studies are factored in;
- Fisheries resources and impacts were explained as well as Wildlife;
- Forestry impacts were also explained.

The team of consultants feel the line is not in the best location to begin with and say "let's not add insult to injury". That is why the consultant team prefers Route B. The project has recently undergone an Inter-ministerial review.

Mark mentioned possible mitigation measures (e.g. double circuiting portions at river crossings).

Gerald Amos

Comments

- Dr. Pritchard has done work on heritage sites in their area.
- Hydro's consultant didn't look beyond existing inventory of sites.
- He was disappointed at not being contacted regarding possible new heritage sites.

Mark Walmsley

- Apologized for consultant and will do whatever is necessary to correct the situation.
- Pointed out that Provincial Government has requirements that would need to be met if construction of this line takes place.

Ken Hodgins

- How can a consultant recommend a route when he doesn't know if there are any sites (on either of them)?

Mark Walmsley

- Has done some work (through existing inventories) and mapped out areas which are likely to have sites.

Gerald Amos

- I know the inventory is not complete. For instance, the Wedeene, Little Wedeene.

Mark Walmsley

- I understand the problem.
- The heritage studies process is: look at areas in general, then do more detailed work when a specific alignment is chosen at that time a detailed inventory will be undertaken.
- Archaeologists will walk the line and identify other possible sites.

ACTION 1. Mark Walmsley

- Does this allay your fears?

Gerald Amos

- No it does not.
- It seems quite simple to me. We know where these sites are and we were not contacted.

Mark Walmsley

- We recognize an oversight.

Charles Shaw

- Where will the footings actually be?

Mark Walmsley

- We don't really have any idea at this time. We won't know that until after the centre line survey is completed.

Ken Hodgins

- As a recommendation to Hydro: make it a requirement to have a consultative process and have someone from the Haisla accompany the engineer and archaeologist.

ACTION 2. Mark Walmsley

Mark Walmsley

- This consultant will get in touch with you (Charles Shaw) immediately and include your recommendations to consult with you all the way through the process route selection.

ACTION 3. Mark Walmsley

Gerald Amos

- Our agreement to share information does not prejudice our acceptance of the project (in principle).
- We recognize that your bosses are telling you that you cannot negotiate land claims with us.
- We do not think the Land-Use - Socio-Economic survey is extensive enough.

Ken Hodgins/Gerald Amos

- (e.g. for instance, map lines)

Mark Walmsley

- Trap lines have been identified through the registration process.

Gerald Amos

- The family that owns the trap lines should be contacted.

ACTION 4. Mark Walmsley

- Trap lines could sometimes be left for a period of time 10-15 years and therefore not be "active" on the Province's list.

John Forsdick

- What is your overall feeling of the line going in?

Gerald Amos

- Especially in second phase (of Kemano Completion Project). We are asked to sustain the impacts and have not felt the benefits.

Ken Hodgins

- Appears that this power will be used solely for export.

John Forsdick

- The power from Alcan will be used for the grid and will support the provincial power system.

Mark Walmsley/John Forsdick

- Tentative agreement is for a 20-year deal with a call back option. Alcan will retain about 60% of power output (ref. p. 4 20-Year Resource Plan).

Gerald Amos

- The bottom line is land claims. We can not do anything. How that is mitigated is out of our control.
- The Haisla is left to ultimately decide whether to block or not to block the line.
- For years now, we have had an historic desire to work with large companies, but the short term benefits (power) are outweighed by the long range consequences and erosion of our lands.

John Forsdick

- Is there anything we can do as consultants to put your issues in better perspective?

Gerald Amos

- I am angry inside. For me there (even at this late date) may still be time to negotiate but the time is getting short.
- Negotiations will be confrontational in future unless something changes.
- We visited the Band in Quebec and got information that has raised our fears of future impacts from projects of his nature.

Mark Walmsley

Q. Do you have a preference in route?

Gerald Amos

- Archaelogically speaking, we cannot give you an opinion.

Ken Hodgins

- I was speaking to GB after the public meetings.

- Would it be possible to consider Double R/W with "H" pole Route B structures? Can you provide the figures for this option?

ACTION 5. Gary Barnett

Ken Hodgins

- One third of homes on reservation are in close proximity to Alcan's lines.

- All the indicators are there to suggest that Alcan will move their line, except a written commitment.

Mark Walmsley

- Did you remember getting the Terms of Reference for these consultants?

Ken Hodgins

- Not really.

Mark Walmsley

- I will send them next week.

ACTION/FOLLOW-UP

1. Mark Walmsley

Put recommendation in report that archaeologists will reach the line route and identify other heritage sites.

2. Mark Walmsley

Require that archaeologist consult with the Haisla Band and have someone from the Band accompany the engineer and archaeologist.

3. Mark Walmsley

Herigate consultant will contact the band immediately and include your recommendations to be consulted with all the way through.

4. Mark Walmsley

Have consultant contact the family that owns the trap line.

5. Gary Barnett

Provide the financial figures for Double R/W with "H" woodpole structure on Route B.

6. Mark Walmsley

Send Haisla Band the Terms of Reference for consultants.

Prepared by:

KCG/wpc
February 1990

Attachment (Proj. Information Kit)

cc: B.C. Hydro Attendees
T. Thompson
J. Edwards

District of Kitimat Council Meeting
7:30 p.m., 19 February 1990

Attendees

Alderman Monahan
Alderman Sage
Alderman Brady
Alderman Corbeille
Mayor Wozney
Alderman Ling
Alderman Rodrigo
Brian Mayhew

Team Members

M. Gwilliam
K. Graeme
J. Forsdick
M. Walmsley

PRESENTATIONS:

John Forsdick - Thanks
- Introductions
- Preparation

Mike Gwilliam - Public Cons.
- Technical Studies
- Environmental Overview

Mark Walmsley - Environmental Detail
- Fisheries & Wildlife
- Forestry

Alderman Corbeille

Q. What period of time would it take to recoup your cost of building the line?

A. I don't know at this time.

Q. Has Ministry of Fisheries got an opinion?

A. DFO Route A (Double circuited); Min. of Environment, Fish and Wildlife Branch - Route B.

Q. I would be anxious to know how you "weight" the different studies? Would Hydro be willing to abandon Route A?

A. Net Impacts.

C. Preference Route A - I would.

Alderman Rodrigo

Q. How wide would the R/W be from the road?

MG [Between 105 ft. - 300-350 ft.]

Q. Everyone keeps stating you don't have a preference. What about the quote "not putting all your eggs in one basket".

A. This was said in the context of system security and stability. It is better to have the lines separated by some distance.

Q. Does Hydro have the technology to anticipate impacts? Can they put two lines on one tower?

A. Yes, but we must keep in mind the significantly higher cost.

C. As people living here we ignore the lines (after were seeing them for years), but the tourist's notice it. I would like to put you in the position of a local fisherman (visual impacts are dependant on where you face). If you put it on Route B then all the local people and tourists will be effected. The visual impacts are very serious.

I would like you to "weight" visual with as much importance as fisheries.

Q. A number of people asked for information and reports at our previous public meeting. Where are the Terms of Reference?

Where are the Environmental reports?

A. When the reports are finished they will be sent out through Kevin Graeme or Mark Walmsley.

I would like to request if Hydro applies for Route B then I ask Hydro have "hearings" in Kitimat.

Alderman Monahan

Q. If line was changed from Route A to Route B would all the poles be removed?

A. All the poles will be removed that support the 287 kV lines - the 69 kV would have to stay.

Q. Has Arcas finished their Heritage studies.

A. Yes! Report being reviewed by Hydro staff.

Q. Are those reports finished and available to public.

A. No; when finished, they will be made available.

Q. Was Arcas available to do all their ground work before the snowfall?

A. Yes, but just barely.

Q. Does Arcas favour Route B.

A. Yes, but it was not strongly in favour of Route B.

Alderman Ling

Q. How long do these wood pole structures last.

A. Between 30-40 years.

Q. Would the cost different be that significant if you took into account the life of steel structures and their maintenance costs.

A.

Q. What relative "weighting" do you give to the different disciplines?

A. Much will depend on the resource agencies - hoping to get a "consensus" in our meeting tomorrow.

Q. Then you make a value judgement.

A. B.C. Hydro does not make value judgements. Decisions are based on factual information which is subject to scrutiny by the public and government agencies. The information can then be used by a third party (independent body) if that becomes necessary.

C. BCUC, then, looks after the public interest.

Q. What is Hydro's time line for a decision on route?

Tentatively the end of March 1990. Within the next 2-3 weeks.

Q. Will there be further opportunities for input after our reception of Environ. reports?

A. Yes/No? Through the process.

C. As a follow up, how will the public then have further input?

Alderman Sage

Q. Will you put in new roads or use existing roads?

A. Wherever we can we will use existing access.

Alderman Brady

Q. Would it be safe to say that Hydro will not apply to BCUC for a 50 Million Project rather than the 18 Million dollar option.

A. I would not expect the final project cost to be the higher figure.

Q. If we receive the reports so late, how much time would we have to comment.

A. I wouldn't say its minor - 1 month to review (my opinion).

Q. Then we should be writing to the BCUC immediately to have meaningful input.

A. This is one option.

Q. It must be significant large power users to get opportunity to use any of the 287 kV power.

A. Yes.

Alderman Corbeille

C. We're getting a piece of the picture but not the whole. Perception is Hydro strongly prefers Route B.

Q. How effective will our letter be if it went to BCUC now.

A. It is new ground so I can't say.

Alderman Line

C. We really need the studies to make our judgement. This consultation process is flawed, you must give us the reports on which to base our opinion. I see process as "window dressing" unless you give us this information.

Alderman Sage

Q. In your contract agreement, how large a user would need a substation?

A. Comes down to economics but users in the order of 80-100 MW would be large enough.

Q. Which way would the power flow through the lines.

A. Could be both ways.

Alderman Brady

Q. If you go to BCUC with Route B and we disagree, then consultation process is halted and we become adversarial in our approach.

Q. Regardlless of route selection, and style and cost. We the tax payers pay the bill, right?

A. Yes, but it defers the necessity for larger projects such as a Site C.

Mayor

Q. How tall are the Double cct towers.

A. 120 ft. approximately.

Q. Could you put more than 1 CCT on it?

A. Yes but there wouldn't be any reason at this point.

Q. Would Route B follow CN?

A. Not really.

Thanks from the Mayor and look forward to receiving reports.

MG I will undertake to hold up application in order to allow your council to review the environmental reports.

Lakelse Community Association
RR#4 C-10 1st Ave
Terrace. B.C.
V8G 4V2

Dear Sirs,

At the Feb. 26th, 1990 General meeting of the Lakelse Community Association, Kelly Kline of B.C. Hydro, Terrace made a presentation on the proposed additional Transmission Line between Terrace and Kitimat.

At the conclusion of the present ation and after considerable discusion a motion to advise BC Hydro that our association prefers Route "B" (West side of Lakeelse) was carried.

Our decision was based on the following:

1. Lower cost
2. Less visual to the public than Route A
3. Security
4. No gas line to contend with.
5. No interuption to Highway traffic during construction.

Good Luck with the selection of Route "B"

Jill Rydlicki

Jill Rydlicki
Secretary
Lakelse Community Assoc.

APPENDIX D

NOTIFICATION OF MEETINGS AND CORRESPONDENCE

BChydro

proud of our Service

26 January 1990

BY COURIER

Jack Talstra
Chairman
Kitimat-Stikine Regional District
300 - 4545 Lazelle Ave.
Terrace, B.C.
V8G 1S6

Dear Mr. Talstra:

Re: Skeena-Kitimat 287 kV Transmission Line

In November, members of our project team met with the public and interest groups to discuss B.C. Hydro's studies of a 287 kV transmission line between Skeena Substation, near Terrace, and Kitimat Substation, near Kitimat. At that time, we were in the early stages of environmental studies and the pubic consultation program.

The purpose of this letter is to provide you with an update regarding the status of the project and our plans for further public meetings.

Based upon the environmental studies and comments received during the early public consultation process we have identified the potential impacts of possible route options. We will publicly review these options on 5 February in Terrace at 7:00 p.m. (Oddfellows Hall 322 Munroe Street) and 6 February in Kitimat at 7:00 p.m. (Kitimat Legion Hall, 655 Legion Avenue).

B.C. Hydro is committed to public consultation and we would appreciate hearing any comments and suggestions you or your constituents may have regarding this project. If you have any further questions or comments please contact Jack Edwards at 663-3795 if you wish to discuss the consultation plans.

Yours truly,

Thom M. Thompson
Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro

proud of our Service

26 January 1990

BY COURIER

Mayor Richard Wozney and Council
District of Kitimat
270 City Centre
Kitimat, B.C.
V8C 2H7

Dear Mayor and Council:

Re: Skeena-Kitimat 287 kV Transmission Line

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Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BC hydro

proud of our Service

26 January 1990

BY COURIER

The Honourable David Parker
Skeena
4722 Lakelse Ave.
Terrace, B.C.
V8G 1R6

Dear Mr. Parker:

Re: Skeena-Kitimat 287 kV Transmission Line

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Thom M. Thompson
Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro

proud of our Service

26 January 1990

BY COURIER

Jim Fulton, M.P.
Skeena
4650 Lakelse Ave.
Terrace, B.C.
V8G 1R2

Dear Mr. Fulton:

Re: Skeena-Kitimat 287 kV Transmission Line

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Yours truly,

Thom M. Thompson
Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro

proud of our Service

26 January 1990

BY COURIER

David Morris
Municipal Manager of the District of Kitimat
300 - 4545 Lazelle Ave.
Terrace, B.C.
V8G 1S8

Dear Mr. Morris:

Re: Skeena-Kitimat 287 kV Transmission Line

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Thom M. Thompson
Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro

proud of our Service

26 January 1990

BY COURIER

Mayor Jack Talstra and Council
City of Terrace
3215 Eby St.
Terrace, B.C.
V8G 2X8

Dear Mayor and Council:

Re: Skeena-Kitimat 287 kV Transmission Line

In November, members of our project team met with the public and interest groups to discuss B.C. Hydro's studies of a 287 kV transmission line between Skeena Substation, near Terrace, and Kitimat Substation, near Kitimat. At that time, we were in the early stages of environmental studies and the pubic consultation program.

The purpose of this letter is to provide you with an update regarding the status of the project and our plans for further public meetings.

Based upon the environmental studies and comments received during the early public consultation process we have identified the potential impacts of possible route options. We will publicly review these options on 5 February in Terrace at 7:00 p.m. (Oddfellows Hall 322 Munroe Street) and 6 February in Kitimat at 7:00 p.m. (Kitimat Legion Hall, 655 Legion Avenue).

B.C. Hydro is committed to public consultation and we would appreciate hearing any comments and suggestions you or your constituents may have regarding this project. If you have any further questions or comments please contact Jack Edwards at 663-3795 if you wish to discuss the consultation plans.

Yours truly,

Thom M. Thompson
Manager
Government & Public Affairs

c: The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro proud of our Service

26 January 1990

BY COURIER

Michael Corbeil
Alderman
District of Kitimat
270 City Centre
Kitimat, B.C.
VBC 2H7

Dear Mr. Corbeil:

Re: Skeena-Kitimat 287 kV Transmission Line

In November, members of our project team met with the public and interest groups to discuss B.C. Hydro's studies of a 287 kV transmission line between Skeena Substation, near Terrace, and Kitimat Substation, near Kitimat. At that time, we were in the early stages of environmental studies and the pubic consultation program.

The purpose of this letter is to provide you with an update regarding the status of the project and our plans for further public meetings.

Based upon the environmental studies and comments received during the early public consultation process we have identified the potential impacts of possible route options. We will publicly review these options on 5 February in Terrace at 7:00 p.m. (Oddfellows Hall 322 Munroe Street) and 6 February in Kitimat at 7:00 p.m. (Kitimat Legion Hall, 655 Legion Avenue).

B.C. Hydro is committed to public consultation and we would appreciate hearing any comments and suggestions you or your constituents may have regarding this project. If you have any further questions or comments please contact Jack Edwards at 663-3795 if you wish to discuss the consultation plans.

Yours truly,

Thom M. Thompson
Manager
Government & Public Affairs

c. The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

BChydro

proud of our Service

26 January 1990

BY COURIER

Bob Hallsor
Administrator
City of Terrace
3215 Eby St.
Terrace, B.C.
V8G 2X8

Dear Mr. Hallsor:

Re: Skeena-Kitimat 287 kV Transmission Line

In November, members of our project team met with the public and interest groups to discuss B.C. Hydro's studies of a 287 kV transmission line between Skeena Substation, near Terrace, and Kitimat Substation, near Kitimat. At that time, we were in the early stages of environmental studies and the pubic consultation program.

The purpose of this letter is to provide you with an update regarding the status of the project and our plans for further public meetings.

Based upon the environmental studies and comments received during the early public consultation process we have identified the potential impacts of possible route options. We will publicly review these options on 5 February in Terrace at 7:00 p.m. (Oddfellows Hall 322 Munroe Street) and 6 February in Kitimat at 7:00 p.m. (Kitimat Legion Hall, 655 Legion Avenue).

B.C. Hydro is committed to public consultation and we would appreciate hearing any comments and suggestions you or your constituents may have regarding this project. If you have any further questions or comments please contact Jack Edwards at 663-3795 if you wish to discuss the consultation plans.

Yours truly,

for

Thom M. Thompson
Manager
Government & Public Affairs

c. The Honourable Jack Davis

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

19 January 1990

Letter to interest groups

Dear:

Re: Skeena-Kitimat 287 kV Transmission Line

In November, members of our project team met with you to discuss B.C. Hydro's proposal for a 287 kV transmission line between Skeena Substation, near Terrace, and Kitimat Substation near Kitimat. At that time, we were in the initial stages of environmental studies and the public consultation program.

The purpose of this letter is to thank you for your participation and to provide you with an update as to our plans to complete the project.

Based on the environmental studies and comments received during our public consultation process, we will be identifying the potential impacts of possible route options. We will review these options during public meetings; these will start at 7:00 p.m. in the Oddfellows Hall, 322 Munroe Street, Terrace, on 05 February and at 7:00 p.m. in the Legion Hall, 655 Legion Avenue, Kitimat, on 06 February.

B.C. Hydro is committed to public consultation and we look forward to your continued participation. If you have any further questions or comments, please contact our Project Consultation Officer, Kevin Graeme, at 663-3414, or call our toll free information line at 1-800-663-1377.

Yours truly,

J. C. Edwards
Manager, External Relations

BChydro

proud of our Service

25 July 1990

Dear Federal/Provincial Governments:

Kitimat - Skeena 287 kV Transmission Line Project

I am writing to provide you with a project update on the above noted transmission line between Kitimat and Terrace.

B.C. Hydro completed a second set of public meetings in Terrace and Kitimat on 5 and 6 February 1990. Meetings were also held with the District of Kitimat Council and with representatives of the Provincial and Federal Resource Agencies on 19 February 1990.

Separate reports on the results of the public consultation program as well as a summary of the environmental studies are being finalized. As you may know, many members of the public and some of the Resource Agencies including Federal Fisheries and the Provincial Fish and Wildlife Branch, have expressed a preference for locating the proposed line in a common corridor with the existing circuit (Route A - see attached location of route alternatives). In certain environmentally sensitive areas along Route A it has been suggested that double circuit construction be used to avoid widening the existing right-of-way and to minimize environmental impact on important fish and wildlife habitat. B.C. Hydro has funded additional environmental studies and is conducting further engineering studies to review double circuiting portions of the line in more detail.

In order to double circuit the two lines the existing circuit must be taken out of service during construction. The scheduling of this work and the impact that taking the line out of service would have on the reliability of electrical supply to the north coast is being carefully reviewed. As such, B.C. Hydro is delaying its submission of an Application for a Certificate of Public Convenience and Necessity to the B.C. Utilities Commission until these studies are complete. It is hoped that the Application can be made by the end of September.

The individual reports for the various environmental disciplines have been placed in local libraries in Terrace and Kitimat and in the two local B.C. Hydro District Offices and are available for review, upon request.

We would welcome any comments you may have and will continue to keep you informed about the project. If you have any comments or questions, please call our project public consultation officer, Kevin Graeme, at 663-3414 (collect) or our toll free information line at 1-800-663-1377

Yours truly,

J.C. Edwards
Manager
External Relations

Attachment

c: K. Graeme

bc: J. Forsdick
M. Gwilliam
D. Read
M. Walmsley

2-Y7.L

BChydro

proud of our Service

25 July 1990

Dear MPs and MLAs:

Kitimat - Skeena 287 kV Transmission Line Project

Further to my letter of 26 January 1990, I am writing to provide you with an update on the above noted transmission line between Kitimat and Terrace.

B.C. Hydro completed a second set of public meetings in Terrace and Kitimat on 5 and 6 February 1990. Meetings were also held with the District of Kitimat Council and with representatives of the Provincial and Federal Resource Agencies on 19 February 1990.

Separate reports on the results of the public consultation program as well as a summary of the environmental studies are being finalized. As you may know, many members of the public and some of the Resource Agencies including Federal Fisheries and the Provincial Fish and Wildlife Branch, have expressed a preference for locating the proposed line in a common corridor with the existing circuit (Route A - see attached location of route alternatives). In certain environmentally sensitive areas along Route A it has been suggested that double circuit construction be used to avoid widening the existing right-of-way and to minimize environmental impact on important fish and wildlife habitat. B.C. Hydro has funded additional environmental studies and is conducting further engineering studies to review double circuiting portions of the line in more detail.

In order to double circuit the two lines the existing circuit must be taken out of service during construction. The scheduling of this work and the impact that taking the line out of service would have on the reliability of electrical supply to the north coast is being carefully reviewed. As such, B.C. Hydro is delaying its submission of an Application for a Certificate of Public Convenience and Necessity to the B.C. Utilities Commission until these studies are complete. It is hoped that the Application can be made by the end of September.

2-Y6.L

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

The individual reports for the various environmental disciplines have been placed in local libraries in Terrace and Kitimat and in the two local B.C. Hydro District Offices and are available for review, upon request.

We would welcome any comments you may have and will continue to keep you informed about the project. If you have any comments or questions, please call me at 663-2653 or our Manager of External Relations, Jack Edwards, at 663-3795.

Yours truly,

Thom M. Thompson
Manager
Government and Public Affairs

Attachment

c: J. Edwards

bc: Honourable J. Davis
J. Forsdick
K. Graeme
M. Gwilliam
D. Read
M. Walmsley

Sent to: 1. Jim Fulton, M.P.
2. The Honourable David Parker.

2-Y6.L

BChydro

proud of our Service

25 July 1990

Dear General Mailing List, Interest Groups, etc.:

Kitimat - Skeena 287 kV Transmission Line Project

Further to my letter of 26 January 1990, I am writing to provide you with a project update on the above noted transmission line between Kitimat and Terrace.

B.C. Hydro completed a second set of public meetings in Terrace and Kitimat on 5 and 6 February 1990. Meetings were also held with the District of Kitimat Council and with representatives of the Provincial and Federal Resource Agencies on 19 February 1990.

Separate reports on the results of the public consultation program as well as a summary of the environmental studies are being finalized. As you may know, many members of the public and some of the Resource Agencies including Federal Fisheries and the Provincial Fish and Wildlife Branch, have expressed a preference for locating the proposed line in a common corridor with the existing circuit (Route A - see attached location of route alternatives). In certain environmentally sensitive areas along Route A it has been suggested that double circuit construction be used to avoid widening the existing right-of-way and to minimize environmental impact on important fish and wildlife habitat. B.C. Hydro has funded additional environmental studies and is conducting further engineering studies to review double circuiting portions of the line in more detail.

In order to double circuit the two lines the existing circuit must be taken out of service during construction. The scheduling of this work and the impact that taking the line out of service would have on the reliability of electrical supply to the north coast is being carefully reviewed. As such, B.C. Hydro is delaying its submission of an Application for a Certificate of Public Convenience and Necessity to the B.C. Utilities Commission until these studies are complete. It is hoped that the Application can be made by the end of September.

2-Y5.1

British Columbia Hydro and Power Authority, 970 Burrard Street, Vancouver B.C. Canada V6Z 1Y3

The individual reports for the various environmental disciplines have been placed in local libraries in Terrace and Kitimat and in the two local B.C. Hydro District Offices and are available for review, upon request.

We would welcome any comments you may have and will continue to keep you informed about the project. If you have any comments or questions, please call our project public consultation officer, Kevin Graeme, at 663-3414 (collect) or our toll free information line at 1-800-663-1377

Yours truly,

J.C. Edwards
Manager
External Relations

Attachment

c: K. Graeme

bc: J. Forsdick
M. Gwilliam
D. Read
M. Walmsley

2-Y5.L

APPENDIX E

PUBLIC INFORMATION INQUIRIES

```
                  EXTERNAL RELATIONS - TRACKING SYSTEM                         00001000
                        PUBLIC INFORMATION REQUESTS                            00002000
                            SKEENA - KITIMAT                                   00003000
------------------------------------------------------------------------------ 00004000
                                                                               00005000
 SK                                                                            00006000
 PIR #      DATE RECD    REQUESTON   AUTH DATE ANSD      SUBJECT               00007000
------------------------------------------------------------------------------ 00509601
0001.1      14/11/89  K. COWAN....  MM.   14/11/89 )  START DATE               00509701
0001.2                                    14/11/89 {  NEED FOR PROJECT         00509801
0001.3                                    14/11/89 }  HOW MANY LINES           00509915
0001.4                             MPG    05/01/90    TOTAL COST               00510037
......      24/11/89   ZENO KREKIC        29/11/89    MAILING LIST             00510103
                       LAPOINTE ENGINEERING LTD       .... .... .... ....      00511021
0002.0      09/11/89   D. FERGUSON  GSB   15/01/90    LINE LOCATION ....       00520021
            21/11/89   M. HUTTER.           N/A       MAILING LIST.. ...       00530017
0003.0   T  26/01/90   S. NEWTON..  JP.   31/01/90    HELICOPTER WORK          00540013
      (SEE WKL0064.0 AND KC0102.0)                                             00550013
0004.0  TF  12/01/90   A. HOPKINS.  KG.   19/01/90    MEETING DATES......      00560026
0005.0   T  09/02/90   T. CHAMBERS  MW    15/03/90   PROJECT INFO.......       00570019
0006.1   T  05/02/90   D. NETTLES   KG    ../../..    PROJECT INFO/MAP..       00580019
0006.2         "            "       KG    ../../..    EMF...............       00590042
0007.0  IP  19/02/90   L. ELLIS     MW    12/07/90    ENVIRON. REPORT          00600022
                       CKTK RADIO                                              00610038
0008.0  IP  19/02/90   R. WOZNEY    MW    05/05/90    ENVIRON. REPORT....      00620022
                     MAYOR OF KITIMAT                                          00630039
0009.0  IP  06/02/90   R. BRADY     MEW   18/05/90    CONSULTATION REPORT      00640032
0010.0  IP  06/02/90   T. BROWN     MEW   09/04/90    ENVIRON. REPORT....      00650023
                    KITIMAT X-COUNTRY SKI CLUB                                 00660024
0011.0  T   17/10/89   CHRISTIANSEN TMT   05/03/90    PROJECT INFO.            00670024
                       N.D.P.                                                  00680025
             X KC-0112.0  X LC-0062.0  X SC-0070.0                             00690025
             X SW-0025.0  X WK-0073.0                                          00700031
0012.C  M   15/03/90   J. CHRYSLER  KG    09/04/90    EXPLAIN PROPOSALS        00710028
                  X EX-0005.0                                                  00720037
0013.0  IP  05/02/90   Z. KREKIC    MEW   10/05/90 *  TERMS OF REFERENCE       00730029
                 LAPOINTE ENGINEERING LTD.                                     00740043
0014.0  IP  06/02/90   V. MASKULAK  MEW   16/07/90 *  FISHERIES & TERRAIN      00750029
                  SKEENA SAWMILLS                        REPORTS               00760044
0015.0  IP  06/02/90   B. SCHWARZ   MW    05/04/90 *  FISHERIES & TERRAIN      00770029
                                                         REPORTS               00780035
0016.0  IP  06/02/90   K. EIDE      MW    10/05/90 *  PHONING US BACK WITH     00790029
                                                        HIS QUESTION           00800036
0017.0  IP  06/02/90   R. SEATON    MEW   10/05/90 *  TRAPLINE PROGRAM         00830012
...... ..  ../../..   ...........   ...   ../../..    ..................       00840012
...... ..  ../../..   ...........   ...   ../../..    ..................       00850012
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APPENDIX F

PRESS RELEASES and ADVERTISEMENTS

BChydro *News Release*

Communications
970 Burrard Street
Vancouver, B.C. V6Z 1Y3

78/08/11/89

DATE: FOR IMMEDIATE RELEASE
CONTACT: PETER McMULLAN
(604) 663-2409

B. C. Hydro will be holding public meetings on November 21, in Terrace, and November 22, in Kitimat, to hear ideas and comments from the public about a possible new 287 kV transmission line.

The line would run from Hydro's Skeena Substation, near Terrace, to Alcan's Kitimat Substation and would be used to carry additional electricity purchased from Alcan. It would also provide a degree of stability in case the existing line was out of service.

Hydro is conducting consultations during the study-phase to inform the public about the project and to help identify concerns which should be considered in selecting the best route.

There are two possible routes for the line. One is on the east side of the existing transmission line along Highway 25. The second is along the west side of the Kitimat-Terrace valley. The later is more direct but would mean establishing a new transmission line corridor. Hydro will continue to examine both options, as well as other possible routes.

Environmental and land use consultants are studying the valley to determine the environmental and cultural resources that must be protected during construction and operation of the line, it it proceeds. The results of these studies will be available to the public for review once the initial work is completed.

Hydro is also working with special interest groups in the area, providing them with information on the project and finding out their initial impressions and concerns.

The new transmission line would be a single circuit, woodpole construction, similar to the existing 287 kV line from Kitimat to Terrace. The average height of the poles would be 20 to 22 metres and they would be spaced 200 to 250 metres apart.

If Hydro decides to go ahead with this project, it will be subject to approval by the British Columbia Utilities Commission (BCUC). Once public consultation and environmental programs are complete, Hydro will submit an application to the BCUC for approval to construct the transmission line.

The public meetings will be held at 7 pm in the Oddfellows Hall, 322 Munroe Street, Terrace, on November 21 and at 7 pm in the Legion Hall, 655 Legion Avenue, Kitimat, on November 22. Further background information is available at Hydro offices in Kitimat and Terrace or by calling Hydro's toll free information line at: 1-800-663-1377.

B.C. Hydro
Kitimat-Skeena
Radio: 30 sec.
Nov. 6, 1989

ANNCR: B.C. Hydro invites you to attend a public information meeting on plans for a new transmission line from Kitimat Substation to Skeena Substation near Terrace.

Two meetings are scheduled, one in Terrace on November 21st at ADDRESS; the second in Kitimat on November 22nd at ADDRESS. Meetings begin at 7 p.m. and include information displays, a Hydro presentation, and time for questions and discussion. Plan to attend.

BCH-89-1 ER	Terrace Kitimat Northern Sentinel	Nov 15
	Terrace Kitimat News Advertiser	Nov 18
	Terrace Review	Nov 15
	Radio CFTK & CKTK	5 spots/day
	Terrace Kitimat	Nov 19-21
	Terrace Standard	Jan 31
	Terrace Review	Jan 31
	Northern Sentenel	Jan 31
	News Advertiser	Jan 27/Feb 03
	Radio CFTK CKTK	3 spots/day
	Terrace Kitimat	Jan 27
		Feb 06

You are invited

to a public information meeting on plans for a transmission line from Kitimat Substation to Skeena Substation (near Terrace).

At present, B.C.Hydro has a transmission line running between the two substations. However a possible new 287 kV line is necessary to transmit additional electricity purchased from Alcan into the B.C.Hydro system. This new line can also serve as a back-up in case the existing line is out of service.

Two routes are being considered. One is on the east side of the existing line along Highway 25. The second, along the west side of the Kitimat-Terrace valley, would require the establishment of a new transmission line corridor.

Environmental and land use consultants have been studying both the environmental and cultural resources in the valley, and initial results of these studies will be shared at the meeting.

Meetings in both Terrace and Kitimat will begin at 7:00 p.m. Information displays outlining possible routes and describing the line will be set up for you to view.

At 7:30 p.m., Hydro will make a presentation on the project and studies to date. Then the meeting will be opened for questions and discussion.

Plan to attend. We would like to hear your ideas about the proposed line.

Location	Date
Terrace:	
Oddfellows Hall, 3222 Munroe Street	Nov. 21, 1989
Kitimat:	
Legion Hall, 665 Legion Avenue	Nov. 22, 1989

Background information on this project is available at Hydro offices in Kitimat and Terrace. Or call Hydro's toll-free line: 1-800-663-1377.

BChydro

You are invited
to attend public meetings on plans for a transmission line from Kitimat Substation to Skeena Substation (near Terrace).

At present, B.C.Hydro has a transmission line running between the two substations. However, a new 287 kV line is necessary to transmit needed additional electricity purchased from Alcan into the B.C.Hydro system. This new line can also serve as a back-up in case the existing line is out of service.

Two routes are currently being considered. One is on the east side of the existing line along Highway 25. The second is along the west side of the Kitimat–Terrace valley. It would require the establishment of a new transmission line corridor.

Environmental and land use consultants have been studying both the environmental and cultural resources in the valley, and the results of these studies will be shared at the meetings.

Please note the locations and dates of the meetings and plan to attend those of interest to you.

Location	Date	Time
Terrace – Oddfellows Hall 3222 Munro Street	February 5, 1990	7:00 pm
Kitimat – Legion Hall 655 Legion Avenue	February 6, 1990	7:00 pm

BC hydro

4625 LA
TERRACE, B.C.
V8G 1S4

Skeena Broadcasters Ltd.

MARTHA KING & ASSOC.
400-1445 W. GEORGIA ST
VANCOUVER. B.C.
V6G 2T5

REPRESENTATIVE	SALESMAN
VANCOUVER DIRECT	VANCOUVER DIRECT
ADVERTISER	**PRODUCT**
B.C. HYDRO	B.C. HYDRO

ORDER TYPE	
ORIGINAL	CFCK
CONTRACT NUMBER	**BROADCAST MONTH**
4196	10/30-11/2
SCHEDULE DATES	**BILLING PERIOD**
11/19-11/21/89	CFTK CKTK

SCHEDULE										ACTUAL BROADCAST								RECONCILIATION		
M	TU	W	TH	F	SA	SU	TIME	RATE	NO.	DATES	DAY	TIME	TYPE MIN	TYPE SEC	M/G FOR	PRODUCT/FILM	RATE	DEBIT	CREDIT	REMARKS
						X	800AM-0300PM		5	11/19	SU	720A	✓	30						
										11/19	SU	940A	✓	30						
										11/19	SU	1040A	✓	30						
										11/19	SU	117P	✓	30						
										11/19	SU	226P	✓	30						
X	X						600AM-0400PM		10	11/20	MO	604A	✓	30						
										11/20	MO	630A	✓	30						
										11/20	MO	1012A	✓	30						
										11/20	MO	1238P	✓	30						
										11/20	MO	358P	✓	30						
										11/21	TU	604A	✓	30		MEETING				
										11/21	TU	630A	✓	30		MEETING				
										11/21	TU	127P	✓	30		MEETING				
										11/21	TU	222P	✓	30		MEETING				
										11/21	TU	338P	✓	30		MEETING				

F - 6

SCHEDULE COST FOR THIS BILLING PERIOD	ACTUAL GROSS BILLING	AGENCY COMMISSION	NET DUE	SUB-TOTALS	RECONCILIATION

SKE/KIT ADVERTISING SPOTS AND PAPER ADS

B.C.Hydro
External Relations
Kitimat-Skeena Meeting February 5 & 6

January 22, 1990

		January										February																				
		22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Meetings: Terrace																X																
Kitimat																	X															
Newspapers																																Circulation
Terrace Standard	Wed										X																					6,375
Terrace Review	Wed										X																					2,148
Kitimat-Terrace																																
Northern Sentinel	Wed										X																					3,069
News-Advertiser	Sat						X							X																		12,188
Radio	2 daily 6am-10am																															
	1 daily 3pm- 6pm																															
CFTK	Terrace						3	3	3	3	3	3	3	3	3	3																
CKTK	Kitimat							3	3	3	3	3	3	3	3	3	3															

CLOSING FOR Radio & Newspapers - January 25...Space reservation January 24

NET Cost estimate - based on 330L Ads & :30 announcements $ 2,324.24

APPENDIX G

STUDY AREA PROFILE

SKEENA KITIMAT
PROFILE OF THE STUDY AREA

The study area for the proposed transmission line is the Valley area west of Highway 25, between Alcan's Skeena Substation southeast of Terrace and B.C. Hydro's Kitimat Substation. The proposed line is required to reinforce B.C. Hydro's system between these two points in order to reliably transmit electricity that will be received from Alcan.

This document is designed to provide an overview of the study area within which the project is proposed, and should be used for background information to public meetings. It is not meant to duplicate the land use and socio economic studies which will be the subject of a separate report.

STUDY AREA

The study area is situated in north west British Columbia approximately 650 km from Vancouver. (Figure 1) The District of Kitimat sits at the head of the Kitimat Arm, a Fjord extending north east from Douglas Channel. A general flat valley about 5 km wide extends between Kitimat and Terrace, surrounded by the coast mountains. This valley provides the setting for the proposed transmission line which is to connect Alcan's Skeena Substation to B.C. Hydro's Kitimat Substation.

The valley area extends for approximately 60 km and is 5 km wide resulting in a study area of approximately 300 sq. km. (116 sq. miles). The incorporated area for the District of Kitimat is 32,190 hectares (124 sq. miles), while Terrace is 2,144 hectares (8.3 sq. miles).

Population

Terrace: 10,532 - 51.3% male and 48.7% female
Kitimat: 11,196 - 51.5% male and 48.5% female

Both populations have declined since 1981, by 3.5% and 12.9% respectively.

Compared to the provincial average, both communities have a higher proportion of males in the population. There is also a higher proportion of families with children (68%), than the provincial average of 56%.

The study area is located in Electoral Area E of the Regional District of Kitimat Stikine. The combined population of the City of Terrace, the District of Kitimat and Electoral Area E is approximately 25,886 persons. The total population of the Regional District is 39,483, a decrease of 6.9% since 1981. The potential market area population is 63,000.

Other notable populations in the study area include:

Kitimat Indian Reserve - population 1,537, down 17.5% since 1981;
Kitsumkaylum Indian Reserve - population 102, up 41.7% since 1981;
Port Simpson Indian Reserve - population 856, down 82.5% since 1981.
(N.B. - Portion of IR is in Skeena - Queen Charlotte R.D.)

The dramatic variations in population suggest the 1986 Census was not effective in enumerating native populations.

EMPLOYMENT

The valley area provides important resources to the local economies of Kitimat and Terrace. Besides the forest industry and Alcan, other notable industries include the federal fish hatchery on the Kitimat River, Ocelot Industries (methanol and ammonia) and tourism.

The labor force and employment characteristics are shown in the following table:

	Kitimat	Terrace
Labor Force	5,605	5,505
Major Industry	Alcan 1,904 emp Eurocan 589 emp Ocelot 78 emp	Skeena Cellulose Skeena Sawmills Bell Pole Co. Federal & Provincial Gov't Offices

An analysis of the labor force by activity shows the following:

Primary Industry	2.6%
Manufacturing	50.8%
Construction	4.0%
Transport & Communication	3.2%
Trade	8.9%
Financial & Real Estate Services	5.2%
Other Services	23.7%

The economic basis is clearly manufacturing of resource based products.

LAND USE

The study area is focused around the population centres of Kitimat and Terrace. (Figure 2) The taxable assessment, as an indication of the total value of property for tax purposes and the level of development, is approximately $242 million for Terrace and $418 million for Kitimat.

Kitimat

Kitimat started as a 'resource town' in 1950 when Alcan chose the site for an aluminum smelter. A major reason for the selection of this site was the potential availability of hydro power on the Nechako River. The District has continued to grow although much slower than anticipated due to slower industrial growth, and technological advances reducing the number of employees needed.

Terrace

Terrace is the focus for transportation and government as well as having a strong service and light manufacturing base. The three major heavy industries are Skeena Cellulose, West Fraser Sawmills and the Bell Pole Co. Terrace is a major transportation point being located at the juncture of three major roadways and the Yellowhead Highway, the Nass Road, and Highway 37, a paved Highway to Kitimat which also connects to the Yukon and Alaska.

The Canadian National Railway, the Terrace Airport, and numerous freight and bus lines connect at this point. Terrace is also the major headquarters for federal, provincial and regional governments in the study area.

Valley Area

Much of the area between the two communities is characterized by new and old growth forest, most of which has been logged over time and reseeded for future harvesting. Major forest companies including MacMillan Bloedel, Zellerbach and Eurocan have interests in the area, and it is also used for trapping, hunting and fishing and recreation. The area has a number of significant environmental features including the Kitimat River, the Wedeene River, and numerous small water courses associated with wildlife habitats. An inventory and assessment of these fisheries and areas is currently underway.

Income Levels

The average income for individuals living in the study area was $32,930 (based on 1985 tax returns for individuals with taxable income). This is higher than the average for B.C. which is $20,038. The average family income, based on 1985 statistics is $46,197, compared to the 1986 B.C. average of $39,121.

Employment levels within the study area are relatively high because of the nature of the community and the geographic setting. Unemployed persons are not apt to remain in the community for any period of time.

Government

Local -	Kitimat and Terrace: Mayor and 6 Aldermen each
Regional -	R.D. Kitimat Stikine - Chairman, Vice Chairman and 10 Directors
Provincial -	David Parker - (Social Credit)
Federal -	James Fulton - (NDP)

Education	KITIMAT	TERRACE
	5 elementary	3 primary
	2 secondary	6 elementary
	2 private	3 secondary
	Northwest Comm. College1 special needs	4 private

Federal/Provincial -

Offices -	Post office Employment & Immigration Customs, Fisheries Public Works Canada Provincial Corrections Courts Health Unit Highways

Community Services -

Medical	Kitimat General Hospital Health Unit	Mills Memorial Hospital Mental Health Clinic Health Unit
Cultural	Museum, Library Performing Arts Centre 12 Churches, Ethnic and Service Organizations	Heritage Parks Performing Arts Theatre Public Library and Art Gallery Churchs + Ethnic + Service Groups
Recreation	2500 ha Parks Arena #1 (2000 seats) Arena #2 (600 seats) Indoor Pool Golf Course, BMX Saltwater Marina	Local Parks Civic Centre Arena (1250 seats) Aquatic Centre Indoor Pool (25 m) Curling Rink Private Recreation Centre
Transportation	Natural Inland Harbor Kitimat Air Park 900 m gravel strip (paved expansion is underway) Also seaplane aerodrome Served by Terrace Airport 58 km south of the	Terrace Airport Via Rail & CNR Greyhound Lines Farwest Lines Coastal Lines Located at juncture of Yellowhead Hwy #16 Woss Road & Hwy #37

	Yellowhead #16 Mike "O" of Hwy #37 which joins the Alaska Highway	
Tourism	Fishing, hiking, boating Lakelse lake, Hotsprings, industrial tours	Volcano and lava beds, heritage and archaeological digs, outdoor recreation activities.

Key Concerns Identified By Interest Groups

Generally, the study area is recognized for its resource base and its importance as part of the economy and lifestyles of area residents.

The economic importance is focused on the forest resource and the potential loss of the AAC. Route B along the west side of the valley would impact lands which have been reforested thereby resulting in an economic loss. Other aspects of this are the loss of traplines and possible opening up of the area to the public.

Environmental concerns which are paramount include the use of herbicides, loss of habitat, potential impact to aquatic environments and the visual impact of the line.

Native land claims also take in the entire area and members of the Project Team met with local Native Bands in the area. Although these bands are not directly affected by the project, they would like some recognition by B.C. Hydro of their cause. Recent blockades of logging roads on land claim territory in northern B.C. provide an example of actions taken by bands to support land claims.

For the most part local and regional governments are supportive of the project. Although it would not provide a major economic boost to the area there is the potential for Route B along the west side of the valley to open up this area for future industry. There is presently a plan in place for industrial development in the valley, although the plan has no formal status.

APPENDIX H

PRESS COVERAGE

Terrace (B.C.) Standard

JUL 11 1990

Word on second power line route not expected until September

TERRACE — B.C. Hydro of-f[illegible]ls say they won't decide unti[illegible] September on which side of the Kitimat valley it will build a n[illegible] power line.

[illegible]ydro says it needs the new 2[illegible]-kilovolt line so it can buy and transfer to the provincial g[illegible] up to 800 megawatts of s[illegible]plus power from Alcan's K[illegible]mano completion project when it comes on line four years f[illegible]n now.

[illegible]he decision on a route is being delayed to allow technicians [illegible]re time to study a new pro[illegible]l, project manager Mike [illegible]illiam said last week.

The proposal would have the extra line built parallel to the existing one — on the east side of the valley — but in sensitive areas both lines would be placed on a single set of larger steel structures.

Gwilliam said putting both circuits on the same line in places would mean taking the existing line out of service during construction.

"It puts the town of Terrace in some jeopardy," he said, noting the line shutdown would leave Terrace vulnerable to any disruption in the flow of power from Prince George.

Normally, he said the existing Terrace-Kitimat line can be used to send power from Alcan to the B.C. Hydro system and vice-versa. Shutting it down would leave Hwy 16 communities without their usual backup system.

The new studies are to determine whether that's wise to do, and how long the system would need to be shut down, Gwilliam said. Construction is still scheduled to start next spring.

B.C. Hydro's environmental impact studies favoured a route on the western side of the valley, which would also be cheaper to build. But the new proposal came when fisheries officials came out in favour of the eastern route with the steel towers built where the line would cross sensitive salmon-spawning grounds.

Terrace (B.C.) Standard

MAY 30. 1990

More time needed before power line route's known

TERRACE — B.C. Hydro is taking more time to decide which side of the Kitimat Valley it will build a new power line following new recommendations from fisheries officials, project manager Mike Gwilliam says.

One of the two routes being considered follows the existing power line along the east side of the valley, while a second option would run the line down the west side of the valley. B.C. Hydro says it needs the new 287-kilovolt line so it can buy and transfer to the provincial grid up to 800 megawatts of surplus power from Alcan's Kemano completion project when it comes on line four years from now.

Sensitive wildlife and salmon-spawning areas along Lakelse Lake and the Kitimat River have prompted fisheries officials to ask both the new line and the existing line be placed on the same set of supports in certain areas if the corporation opts for the eastern route.

"The two key areas are Williams Creek and Sockeye Creek at the north end of the valley, and the Kitimat River at the south end," Gwilliam said.

He now says a route decision is expected by the end of June, following the completion of new studies into the sensitive creek areas requested by fisheries officials.

Twinning the lines on the same supports would mean building large steel towers — instead of the existing wooden supports — in those areas, he said.

Engineers are looking at the proposals, he said, to determine how much higher they would push the project's cost. The western route is being examined closely because environmental impact studies favoured it, and it's about 10km shorter — and $2 million cheaper — than the eastern route.

Gwilliam said last week B.C. Hydro now hopes to make its decision and file its application with the B.C. Utilities Commission by early June. "What I would like to do is go forward with a consensus route."

Forestry and fisheries issues top B.C. Hydro's list of environmental concerns following public hearings and studies into the building of the proposed line. "Those are the two that in our view tend to stand out." Gwilliam said.

B.C. Hydro officials say the line will enable them to buy large quantities of surplus power from Alcan, averting or delaying the need for new hydroelectric projects, such as proposed new dams on the Peace and Stikine Rivers.

Gwilliam said the new studies are aimed at assessing the fish populations that aren't currently known in some smaller creeks and streams. B.C. Hydro wants to know how sensitive the areas are now, he said, rather than part way through the construction.

"If we go with that route, we don't want to be painted into a corner," he explained.

The Northern Sentinel (Kitimat, B.C.)

MAY 30. 1990

Hydro line studied

288

A plan that would see a new BC Hydro transmission line run along side the existing power line between Terrace and Kitimat is undergoing environmental studies by B.C. Fish and Wildlife, according to project manager Mike Gwilliam.

The other option being considered is to run the transmission line along the west side of the highway.

B.C. Hydro is in favor of running the new line parallel to the existing line on the east side of Highway 25, said Gwilliam.

The transmission line would run 61 kilometres and cost close to $18 million.

B.C. Hydro plans to submit its application for the new transmission line to the B.C. Utilities Commission by the end of June.

The Northern Sentinel (Kitimat, B.C.)

MAY 23 1990

Council wants hydro status quo

288

By ROSALINA CORDEIRO

"Use the current corridor" is the message Kitimat council will be sending to B.C. Hydro in reference to council's preferred location for the proposed new transmission line between Terrace and Kitimat.

The new transmission line will run from Hydro's Skeena substation near Terrace to Alcan's Kitimat substation.

The need for a new transmission line arose from an agreement between Alcan Alumnium Smelters and Hydro to purchase power from the Kemano Completion Project in 1994.

Hydro identified two possible routes for the transmission line. The first alternative identified was to follow the current hydro line along Highway 37.

The second was the construction of a new right-of-way which would be 10 kilometres shorter than the first and would run west of Lakelse Lake.

Alderman Ray Brady put forward the motion to council that it recommend to Hydro a twin circuit transmission line be used on the existing right-ofway.

"At the public meeting in February, residents of Kitimat asked Hydro to not only consider the Route A alternative (along Highway 37) but also consider twinning the circuit line along the existing line," said Brady.

He explained that a twin circuit line on a single tower would be more expensive but would have less visual and environmental impact since the current right-of-way would not have to widened to accommodate for the second line.

"The twinning of the lines will cost more than double that of building a second single circuit line on wooden poles," said Brady. "But it would have less of an impact on the area since the right-of-way for the existing transmission line has been in place for the last 20 years."

Brady said it was apparent at the two public meetings hosted by Hydro that Kitimat residents overwhelmingly preferred that the existing right-of-way be used for the new transmission line.

"Hydro representatives informed residents that the company had no preference for either route and therefore was taking into account the opinions of residents and environmental consultants to find out which route would have the least impact," said Brady.

Brady said it was important that Hydro take into consideration what the people of Kitimat and Terrace had to live with for the next 20 to 30 years since the greatest impact would be visual.

Terrace (B.C.) Standard

MAR. 28. 1990

Route not known

288

Hydro decision pushed back

TERRACE — B.C. Hydro will wait another month before deciding on which side of the Kitimat Valley it will build a second power line to carry surplus power from Alcan's Kemano completion project.

Project manager Mike Gwilliam said last week officials from the Department of Fisheries and Oceans, the Ministry of Forests, and fish and wildlife officials want more time to review the environmental impact studies.

One of the two routes under consideration follows the existing power line along the east side of the valley, while a new option would run the line down the west side. B.C. Hydro wants to build the new 287-kilovolt line so it can buy up to 800 megawatts of extra power from Alcan and transfer it to the provincial grid when Kemano comes on line four years from now.

Gwilliam says the company has not decided on a route and won't until the final studies are finished and have been circulated to the public.

"We would be making up our minds toward the latter part of April to early May," Gwilliam said. Company officials hope to submit the application for the project to the B.C. Utilities Commission by mid-May, he added.

He said the final reports will be made public through B.C. Hydro district offices and libraries by mid-April.

The initial findings of the environmental studies — released at public meetings last month — overwhelmingly favoured the western route.

Only the forestry sector would be hit harder if the line is built on the west side, consultants told local residents, with timber-producing land worth about $200,000 a year taken out of production.

Officials say the western route would give the power company a backup line that would be completely separate from the eastern line, and less vulnerable to accidents and disasters. The western route — which is about 10km shorter — would also chop $2 million from the project's $18-million price tag.

"The fact that agencies are split and the public is split makes our job that much more difficult," Gwilliam said. "We'd prefer to see consensus on one route."

Some residents favour neither route, however, and want the company to scrap the whole idea.

Gwilliam characterized that sentiment as "not-in-my-backyard syndrome" and said the public consultation meetings have been generally productive.

B.C. Hydro's budgeted nearly $150,000 for the project's public relations, consultation, and studies, he said.

Terrace (B.C.) Standard

FEB. 21 1990

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Mixed feelings greet Hydro line proposal

TERRACE — Residents at a public forum on B.C. Hydro's proposal for a second power line between Terrace and Kitimat came away with mixed feelings about its location.

B.C. Hydro officials said all but one of its environmental impact studies favour a route on the west side of the valley. Most residents there, however, continued to support a route parallel to the existing power line.

B.C. Hydro says it needs the new 287kV line so it can buy surplus power from Alcan's Kemano completion project and transfer that power to the provincial power grid. The existing line — which runs along the east side of Lakelse Lake and down the east side of the valley — can't handle the up to 800 megawatts of extra power to be generated by the project.

One option for B.C. Hydro is to run the new line next to the existing one which runs to the east of Lakelse Lake and down the east side of the valley. The other route would open a new corridor for the line on the western side of the valley.

Local angler Grant Hazelwood said the new western route would be better for the sports fishery because it avoids crossing the Kitimat River and bypasses the sensitive salmon-spawning area near the north end of Lakelse Lake. The river-crossings on the west side are also more stable, he said. "From what we can see the west side looks high and dry — there's a lot of solid rock."

But other interest groups thought it made more sense to put the line on the existing east side, with some favouring the construction of large steel towers. That option would enable B.C. Hydro to put both power lines on the same set of supports.

Hydro officials said the steel tower option would be extremely expensive — as much as $42 million compared to the proposed $18-million wooden pole system.

John Hipp, a spokesman for the Department of Fisheries and Oceans said he favoured twinning the lines on towers "costly as that may be." Another resident accused B.C. Hydro of not considering the option because of the price tag.

The steel tower option would also force B.C. Hydro to take the existing line out of service for a year, and the two lines would be more vulnerable to floods, landslides and other disasters than if they ran on separate sides of the valley.

Foresters tended to favour the eastern route because it is calculated to take less productive forest out of production.

The owner of Water Lily Bay Resort told residents he was victimized by B.C. Hydro when the power utility put the original power line through the valley in the early 1960s. David Bowen-Colthurst said he was offered $28 for a 2.8-acre parcel of land B.C. Hydro was expropriating for the line.

Hydro spokesman Mike Gwilliam called the incident one of the "sins of the past."

Clearing and construction is to begin in 1993 if the project is approved.

Terrace (B.C.) Review

FEB 14 1990

Still no consensus on hydro line corridor

B.C. Hydro held its second public meeting in four months ast week to discuss the proposed Kitimat/Terrace hydroelectric ransmission line upgrade. This atest meeting answered some of he questions raised at the first, but in the final analysis those present rejected Hydro's preferred route.

When asked by transmission project manager Mike Gwilliam, even of the 14 people in attendance opted for route 'A' while only four favored route 'B'.

Route 'A' closely follows the route of the existing transmission line on the east side of Lakelse Lake, while route 'B' is a new route on the west side of Lakelse Lake.

Among the advantages to route 'B', says Gwilliam, are the fact that it's 10 kilometers shorter, which means a $2 million saving in construction costs. A shorter route also means more efficient transmission, he says, but in addition to that there are fewer soil problems on route 'B', fewer watercourse crossings, little or no conflict with other right-of-way users, and a separate transmission line route means greater security for B.C. Hydro.

With separate routes, he explains, if one transmission line is cut Hydro still maintains 50 percent of its transmission capacity, though, there is a greater possibility that both lines would be cut at the same time, isolating Alcan's generating potential from the provincial grid.

The only disadvantages listed with route 'B' are the fact that the route is distant from maintained winter access and there is a soil/slope stability problem on the west side of the Wedeene River crossing.

On the other hand, Hydro lists only a few advantages with route 'A': its proximity to existing access roads, the fact it follows the "common corridor" concept, there would be reduced right-of-way acquisition and less clearing would be required because of the new line's proximity to their existing right-of-way and that of the PNG natural gas pipeline. He says there are numerous disadvantages, though. Among them, soil conditions are poor at Lakelse Lake and the Kitimat River, some route sections are in confined areas and compete with existing rights-of-way, a second line on the east side of Lakelse Lake would impact on the fishery resource far greater than another separate route on the west side of the lake, the line would be close to provincial parks, and there are increased visual concerns.

Hydro's choice of a new west side of Lakelse Lake is backed by all but one of their independent consultants. Consultants with expertise in fisheries, wildlife, heritage, terrain, land use and visual and recreational concerns all favor route 'B', according to B.C. Hydro, but their forestry consultant favors route 'A' because a right-of-way cleared there would mean a smaller loss in harvestable timber. According to B.C. Hydro, though, most of route 'B' has already been logged and there are only a few stands of merchantable timber. And all this timber, they say, would be sold... not destroyed.

Hydro basically has five options: a new line following route 'B', parallel circuits supported by wood pole on either route 'A' or 'B', or a new double circuit, steel tower line on either route 'A' or 'B'. The total cost for Hydro's choice has been estimated at $16.24 million. The option apparently favored by the public, a steel tower double circuit line replacing the existing line on the east side of the lake, has been estimated at $42 million — the most expensive option of all five choices.

The public's choice is reinforced by the official position of the Department of Fisheries and Oceans. According to fisheries officer John Hipp, route 'B' has compared to 11 on route 'A', and would therefore have a smaller impact on the fisheries resource. This impact, though, would be in addition to what already exists on the present route and is therefore not acceptable.

Other concerns raised at last week's meeting came from Kolbjorn Eide, who wants information on compensation for any damage caused to his 40-hectare trapline located on route 'A', and David Bowen-Colthurst who said he had to go to arbitration to get a $28 right-of-way offer from B.C. Hydro in 1965 raised to a more reasonable $1,600 settlement two years later. "Why should we trust you?" Colthurst asked Hydro.

B.C. Hydro was also offered a sixth option to their route selection quandry by Kitimat-Stikine Regional District planner Tosh Yamashita: don't build a new line or upgrade the existing line. Gwilliam explained, however, that without upgrading the present line the Alcan Completion project will offer little value to B.C. Hydro. If that potential doesn't go into the B.C. grid then another option, possibly a new dam in the Kootenays or Peace River area, will be needed sometime in the near future.

Western power route favoured

TERRACE — All but one of B.C. Hydro's environmental impact studies into building a second Kitimat-Terrace power line favour a route on the western side of the Kitimat Valley.

But B.C. Hydro officials told those at a public meeting last week no decision has been made on which route to use. Company spokesmen first laid out the two routes — one roughly follows the existing eastern route and a second runs along the western side of the valley — at public meetings in November.

B.C. Hydro says it needs the new 287kV line so it can buy surplus power from Alcan's Kemano completion project and transfer that power to the provincial power grid. The existing line — which runs along the east side of Lakelse Lake and down the east side of the valley — can't handle the up to 800 megawatts of extra power to be generated by the project.

The company's environmental consultants found fisheries, wildlife, potential heritage sites, views and existing development would be least affected by the western route. Only the forestry study favoured the eastern route.

Environmental consultant Mark Walmsley said the evidence so conclusively favours the western route that it was a mistake to build Hwy37 and the existing hydro and natural gas lines on the eastern side.

Running the line on the western route, the study said, could block logging access to parts of that side of the valley, cut off upslope timber, and take 25 per cent more productive forest land out of service than the eastern route. The up to 32-metre swath of forest to be cut for the corridor would be worth about $200,000 a year in extractable timber.

If the company does opt for the western route, which is 10 km shorter, it could slice nearly $2 million off the cost of the $18-million project.

Hydro officials say the western route would also give the power utility a completely separate backup line, that would be less vulnerable than running both lines side-by-side.

The News Advertiser
(Kitimat, B.C.)
FEB 10 1990

Hydro gets a clear message

By ROSALINA CORDEIRO

Unanimous support for maintaining the current hydro corridor was the message B.C. Hydro representatives received from Kitimat residents who showed up at the public consultation meeting Tuesday night, echoing the concerns of the Terrace residents who met with hydro Monday.

Hydro officials were in the northwest conducting public hearing meetings and presenting technical and environmental assessments from experts regarding the proposal to build a new hydro transmission line between Terrace and Kitimat.

A need for a new transmission line arose from an agreement reached between Alcan Aluminum Smelters and B.C. Hydro to purchase power from the Kemano Completion Project in 1984.

Assessments were conducted by hydro for two proposed routes. The first alternative identifed was to follow the current hydro transmission line along Highway 37. The second was the construction of a new right-of-way which would be 10 kilometres shorter than the first and would run west of Lakelse Lake.

Hydro Project Manager Mike Gwilliam said a route for the transmission line had not been selected but was pending the outcome of the public consultation program and complete review of the environmental studies.

"We're looking for the route which will have the least impact on the environment."

Suprisingly, said Gwilliam, six of the seven environmental studies conducted on the impact of forestry, fisheries, wildlife, heritage, terrain, land use and visual/recreation impacts of the transmission line favored Route B (along the west side of the valley) over Route A, the present route.

Only the forestry consultant rated "A" as the preferred route due to the loss of mature and immature timber and silviculture in the area.

A technical assessment for both routes was presented by Garry Barnett, a transmissions engineer with hydro. Barnett presented a report rating seven of the eight technical assessment components as favoring Route B.

Barnett said the technical assessment criteria included design considerations such as topography, conductor loading, and deflections, as well as access, clearing, security, special considerations such as river crossings and gas pipeline interference and cost.

The difference in price for the two routes was roughly estimated to be $2 million with Route A coming in at a price of $18 million and Route B at $16 million due to its 10 kilometre shorter length.

Hydro representatives fielded questions from the audience regarding the validity of the environmental and technical studies and were asked whether the information might not be biased towards Route B.

Mark Walmsley, Director of the Westland Resource Group which compiled the information from the independent consultants, said the results were directly derived from the expertise of each consultant who weighed the pros and cons of building the proposed transmission line in each area.

Kitimat resident Ray Raj said after he examined the information it seemed as if Hydro had taken the complaints and concerns of Kitimat residents from the November public meeting and presented evidence to support the opposite.

"It seems like everything we said no to in November, you're trying to convince us to say yes now that you've got the opinion of some consultants."

Alderman Ray Brady too questioned the hydro team about the accuracy of the information.

"Your visual recreationist is out to lunch if he thinks creating a completely new right of way through forested lands will have the least impact on land which we the residents have to live with the rest of our lives and look at the line."

Gwilliam said the information would be perused by Hydro and a final decision for the route proposal would be made by the end of March when application would be made to the B.C. Utilities Commission for the go-ahead.

Terrace (B.C.) Review

JAN 31 1990

Second meeting called on hydro line proposal

TERRACE — B.C. Hydro will hold another public meeting Monday on the subject of its project to build a second power transmission line to Kitimat.

Hydro will need the additional 287 kilovolt line to make use of the power it has purchased under contract from Alcan, who will deliver it when the Kemano II project is finished in 1994. A public meeting in Terrace Nov. 18 was the start of a consultation process that Hydro says will allow public concerns to be considered in the construction of the line. That meeting drew about a dozen local residents, most of them from the Lakelse Lake area through which the new power line corridor will run.

At that meeting several options were presented by a group of Hydro representatives. The advantages and drawbacks of doubling the existing corridor on the east side of the the lake, clearing a new single-line corridor on the west, or decommissioning the existing corridor and running both lines down the west side were discussed in a session that lasted over two hours. Stringing a new set of higher capacity lines on single steel lattice towers, replacing the existing H-frame wooden pole structures, was also suggested.

Kevin Graeme, Hydro's project consultant officer, said in an interview Friday that none of the options discussed at the first meeting have been ruled out. The second meeting, he said, has been called because the preliminary results of environmental studies and other information are now available for public examination.

Graeme added that Hydro also wants to be certain that no one who will be affected for the new line misses the opportunity to become part of the public consultation. Some of those people may have missed the first meeting, he said. "We still need to make sure everybody has the chance to speak up."

The meeting opens Feb. 5 in the Oddfellows Hall at 3222 Munroe St. at 7 p.m. Graeme said the first part of it will be an informal opportunity for those attending to examine Hydro's documents on the project and question their technical representatives.

The Northern Sentinel (Kitimat, B.C.)
DEC 16 1989

Council should look at hydro route

To the Editor,

When the public hearing on B.C. Hydro's proposed second power line was held in Kitimat, I was there and the only member of our council in attendance was Mike Corbell.

At this public hearing, it was the unanimous decision of the public that the proposed B.C. Hydro power line should take Route A, since it is adjacent to the existing line.

Route A was preferred over Route B after taking into consideration the impact Route B will have on cross-country skiing, hunting, fishing, wildlife, and sight-seeing.

Route B is less expensive for B.C. Hydro, but the impact on the environment is greater.

I was also at the Nov. 20 council meeting and I was shocked and very disappointed at the lack of knowledge on the part of our aldermen.

I was under the impression that when the public puts its faith in people and elects them as an alderman, they would do their homework and stay on top of the issues.

All I saw on Nov. 20 were some very ignorant aldermen.

I believe that some of the members of this council think "ignorance is bliss and it's [illegible] be wise", but I would [illegible] let them know that "ignorance never settles a question." Do not sit on the fence, take a stand!

The only alderman that knew what he was talking about was Alderman Mike Corbell. Alderman Brady and LeBage were not present.

Under communications Mr. Corbell moved that the Kitimat Council should take a stand on B.C. Hydro's proposed second power line and tell B.C. Hydro that the council respects the outcome of the public hearing and prefers Route A over Route B.

The other aldermen did not even second the motion for discussion purposes. You probably won't believe this, but some of them were actually turning the pages of B.C. Hydro's package to find out what was in it.

The motion died due to the lack of a seconder.

Under 'new business', Alderman Corbell brought up this motion again, after explaining to the council why he preferred Route A. All cross-country skiers, hunters, fishermen and environmentalists prefer Route A over Route B, so it is the job of the council to listen to the public.

Maybe some of the members of our council have been there so long that they have lost touch with the public.

I care about Kitimat and the environment, and that's why I'm writing to tell you that the motion died again, due to lack of a seconder.

My message to the Kitimat council is to ask them to show some responsibility and leadership.

See what's happening in our back yard and get involved while the issues still make sense. Anyone can jump on a bandwagon after the issue is settled, but it takes a true politician to take a stand before.

Ray Raj

Terrace (B.C.) Standard
JAN 24 1990

Twin hydro lines seen

TERRACE — Reaction to the planned addition of new power lines between Terrace and Kitimat favours twinning the existing lines, a B.C. Hydro spokesman says.

The provincial power company wants the new lines so it can buy surplus power from Alcan's Kemano completion project and transfer it to the provincial power grid. The existing 287kV line running down the east side of the valley can't handle the extra 800 megawatts to be generated by Kemano and a second one is needed.

At public meetings in November, Hydro officials laid out two possible routes for the line: one roughly following the existing route down the east side of Lakelse Lake and across the Kitimat River, and the other running on the west side of the valley, crossing the Wedeene and Lakelse rivers.

Hydro spokesman Mike Gwilliam said last week no decision has been made on a route, but regional industry, logging companies and other users tend to prefer twinning the existing eastern line.

Although residents at the November meeting had environmental concerns about both routes, they also tended to favour doubling the existing line over constructing a completely new line.

Gwilliam said Hydro representatives will hold another round of public meetings next month to address the public's concerns.

The company hasn't decided which route it prefers, he said. The western route would be 12km shorter, $2 million cheaper and would provide a backup line in case the existing one was ever knocked out.

Clearing of the 32-metre swath is set to begin in 1993 and construction would start in 1994 if the $18-million project is given the go-ahead.

The Northern Sentinel (Kitimat, B.C.)

NOV. 22 1989

Hydro gets input on new Kitimat line

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By DAN GILMORE

B.C. Hydro is holding meetings in the northwest this month to gather ideas and hear comments from the public about a proposed power transmission line to run between Kitimat and Terrace.

Peter McMullan, spokesperson for B.C. Hydro, explained the line would run from Hydro's Skeena substation, near Terrace, to Alcan's Kitimat substation and would carry additional electricity purchased from Alcan. He explained it would provide a degree of stability in case the existing line went out of service.

"Hydro is conducting consultations during the study phase to inform the public about the project and help identify concerns that should be considered before selecting the best route."

McMullan said there were two possible routes for the line. "One is on the east side of the existing transmission line along Highway 25 [Hwy 37]. The second is along the west side of the Kitimat-Terrace Valley.

"The later is more direct but would mean establishing a new transmission line corridor. We'll continue examining both options, as well as other possible routes.

"Environmental and land use consultants are studying the valley to determine the environmental and cultural resources that must be protected during construction and operation of the line, if it proceeds.

"The results of the study will be made available to the public for review once the initial work is completed."

The new transmission line would be a single circuit, wood pole construction, similar to the existing 287 kilovolt line from Kitimat to Terrace, McMullan said, adding the average height of the poles, spaced 200 to 250 metres apart, would be 20 to 22 metres.

"If hydro decides to go ahead with this project, it will be subject to approval by the British Columbia Utilities Commission (BCUC). Once public consultation and environmental programs are complete, Hydro will submit an application to the BCUC for approval to construct the transmission line," McMullan said.

McMullan said further background information could be obtained at hydro offices in Kitimat and Terrace or by calling hydro's toll-free information line, 1-800-[illegible]-1277.

Prince Rupert (B.C.) Daily News

NOV. 20 1989

Hydro hearings

B.C. Hydro will hold public meetings in Terrace tomorrow and Kitimat Wednesday to hear ideas and comments about a possible new 287 kV transmission line.

The proposed line would run from Hydro's Skeena substation near Terrace to Kitimat substation and would be used to carry additional electricity purchased from Alcan.

The line, says a press release from Hydro's head office in Vancouver, would also provide a degree of stability during problems with the existing line.

Two routes are being considered for the line, one along the east side of the existing transmission line and the other along the west side of the Kitimat-Terrace valley. The latter is more direct but would mean establishing a new transmission line corridor.

Environmental and land use consultants are studying the valley to determine the environmental and cultural resources that must be protected during construction and operation of the proposed line.

The new transmission line would be single circuit and of woodpole construction, similar to the existing 287 kV line from Kitimat to Terrace.

The average height of the poles would be 20 to 22 metres and they would be spaced 200 to 250 metres apart.

The Fisherman (Vancouver, B.C.)

NOV. 17 1989

Coalition opposes Alcan dam project

Construction crews have installed major camps at Kemano and at the Kenney Dam near Burns Lake as Alcan begins the construction of its Kemano completion project.

The $800 million scheme, which relies on a special agreement between Ottawa and Alcan which environmentalists believe will threaten salmon stocks, will see electricity produced at Kemano sold to B.C. Hydro for export to the United States.

The Rivers Defence Coalition, which includes the UFAWU, has undertaken legal action against the federal fisheries department for its role in agreement, which allows Alcan to determine flows of water released into the Nechako.

The Nechako ultimately flows into the Fraser, providing a critical link in the river's ability to provide safe, cool waters for the passage of salmon.

Alcan wants to hold that water behind the dam, divert it over the divide to Kemano, and produce additional power at a new hydro station under construction on the coast.

Alcan will house 725 workers at Kemano to build the powerhouse and the new tunnels which will serve it. At the Kenney Dam, another camp has been built for 84 workers who will reconstruction the spillways which release water into the Nechako.

The Nechako's already-diminished flows will be further reduced when the 500 megawatt project is completed.

Prince George (B.C.) Citizen

NOV. 17 1989

1950s DAM FLOODING

Alcan, Indians reach deal

by BEV CHRISTENSEN
Staff reporter

The sight of the home-made coffins of relatives and friends bobbing around on the waters of a lake southwest of Vanderhoof is burned into the memory of Simon Peters, Cheslatta Indian Band chief, although it happened more than 30 years ago.

"I watched as the home-made coffins lined with red silk fell out of the bank one after the other and were floating around on the water. It was an awful sight," he said Thursday from his home near Burns Lake.

The band's troubles began in the 1950s when Alcan built the Kenney Dam in the Grand Canyon of the Nechako River to divert water west through a chain of lakes into the company's electrical generators at Kemano.

Included in the negotiations between Alcan and the provincial and federal governments leading to the development of the huge project was an agreement enabling the company to purchase the reserves occupied by the Cheslatta Band for $129,000.

What was overlooked at the time was that a native graveyard was near where a spillway would be constructed to carry away runoff water when the water became too high in the reservoir.

Peters is hopeful an agreement reached recently between the band and Alcan will partially restore the band's reserves so the 170 members of the band can return to the land they occupied prior to 1950. They managed to relocate nearby, although their new land is scattered.

Bill Rich, Alcan vice-president for B.C., now admits the sale of the reserve land was a mistake.

"There aren't many things about the first phase of the project that I'd have done differently, but the arrangement that was made with the Cheslatta people is one of them.

"It's only with time that we have come to learn of the significance of these lands and I'm truly pleased we're able to do things right the second time around," he says in a company press release.

He also said the company supports Chief Peters' efforts to have the federal and provincial governments restore all the land being returned to the Cheslatta band to reserve status.

Under the terms of the agreement, Alcan will change plans for the $20-million cold-water release system it will construct in the base of the Kenney Dam southwest of Vanderhoof to replace the Skins Lake spillway.

Alcan has also agreed to return the band's reserve lands it purchased from the federal government in the 1950s.

The redesigned cold-water outlet at the Kenney Dam will be increased to ensure it can handle the largest amount of flooding that's occurred in the area during the past 200 years. This is the level of protection now required for land development in B.C.

The Skins Lake spillway will remain in place so it can be used if there is an unusually high flood level.

The Kenney Dam project is part of Alcan's $800-million expansion of its hydroelectric operations in northwestern B.C., known as the Kemano completion project.

One of the sites included in the original sale of reserve lands was an Indian graveyard on the west side of Cheslatta Lake.

After the dam was constructed, the water in the lake was allowed to rise, Peters said. When it was released through the spillway, it caused severe erosion of the banks along its route and near the graveyard located near the spillway outlet.

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Alcan

None of the potential damage was explained to the 50 or 60 Cheslatta Indians living in the area at the time. Only one band member, army veteran Able Peters, was available to intrepret what was being said because he was the only band member who was able to speak English.

After the sale was completed, they were given 10 days to move off their reserves, Chief Peters said.

Reserve lands are not owned by the Indians. They're held by the federal government in trust for the Indians, as was the $129,000 Alcan paid the federal government for the Cheslatta reserves.

With the approval of the Indian Agent, band members were able to use this money to purchase parcels of private land in the area.

As a result, the 170 people who are now members of the band are scattered throughout the area on land they've purchased at Grassy Plains and Uncha and Ootsa Lakes.

The band has filed a specific land claim case in an attempt to resolve the issues surrounding the sale of their land in 1952. Some of their reserve land will never be recovered because it's under water or has been washed away, Chief Peters said.

Interior News (Smithers, B.C.)

OCT 18 1989

Line planned

VANCOUVER — B.C. Hydro says it is considering two possible routes for a second transmission line between its Skeena substation near Terrace and Alcan's Kitimat substation.

The 287 kilovolt line will transmit electricity purchased from Alcan, which generates it in its Kemano system.

B.C. Hydro says it will apply to the B.C. Utilities Commission for permission to build the line and begin a public consultation process about the route later this month.

The line is scheduled for completion by the fall of 1994, if the utilities commission grants permission for construction, says B.C. Hydro.

Terrace (B.C.) Standard

OCT -4 1989

B.C. Hydro wants second line to Alcan in Kitimat

TERRACE — A [illegible] of meetings should begin this month with interest groups on a proposed hydro-electric transmission line to connect B.C. Hydro's distribution system with the new power from Alcan's Kemano Completion Project.

B.C. Hydro project manager Mike Gwilliam said the 287kv line, there is already one 287kv line running from Terrace to Kitimat, would connect the crown corporation's Skeena substation near here with Alcan's Kitimat substation near Kitimat.

He said B.C. Hydro wants the line completed by late 1994 to coincide with the conclusion of the Kemano Completion Project.

The process, along with environmental, socio-economic and other studies and discussions with various government agencies, will seek opinions on possible line routes, said Gwilliam. Permission from the province's utilities commission is required.

"We're looking at two possible routes — one would parallel the existing line to Kitimat and the other would follow the existing line for about one-third of the way," Gwilliam said.

The new line would be between 50-63km long depending on the ro[illegible] between $1[illegible] and $1[illegible] million, he said.

B.C. Hydro last year signed a 20-year power purchase contract with Alcan worth $400 million.

Alcan originally said it wanted the Kemano Completion Project to provide power for another aluminum smelter but now says that will have to wait until the market improves.

Gwilliam said the new line could also be used to transmit power from B.C. Hydro to Alcan.

MacKenzie (B.C.) Times

OCT -3 1989

Hydro applies for a second line between Terrace and Kitimat

B.C. Hydro will apply for a Certificate of Public Conveyance and Necessity to construct a second 287 kilovolt transmission line between Hydro's Skeena substation, near Terrace and Alcan's Kitimat substation, near Kitimat.

The application is consistent with an order issued in July by the British Columbia Utilities Commission (BCUC) requiring Hydro to make application for certificates "for all future transmission lines rated at 138 kilovolts and above".

Concurrent with the application, Hydro has initiated a review process with federal, provincial and local government agencies. Hydro will work in cooperation with relevant government ministries and the public to identify and resolve key issues associated with the project.

Hydro will be conducting social and environmental impact and routing studies. This month, a public consultation program will begin, involving local community groups, landowners and other interest groups, Indian Bands and the general public. Results of the studies will be made available to the public through the consultation process.

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A preferred route for the proposed transmission line has not yet been established. Hydro has identified two possible routes and will consider input from the public and government in determining the most suitable route.

The planned transmission line would allow Hydro to transmit electricity purchased from Alcan. Subject to a certificate being issued by the BCUC, the line is expected to be in service by the fall of 1994.

The Pioneer (Chetwynd, B.C.)

OCT -3 1989

Hydro applies for 2nd line

B.C. Hydro will apply for a Certificate of Public Convenience and Necessity to construct a second 287 kilovolts transmission line between Hydro's Skeena substation, near Terrace, and Alcan's Kitimat substation, near Kitimat. The application is consistent with an order issued in July by the British Columbia Utilities Commission (BCUC) requiring Hydro to make application for certificates "for all future transmission lines rated at 138 kilovolts and above."

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A preferred route for the proposed transmission line has not yet been established. Hydro has identified two possible routes and will consider input from the public and government in determining the most suitable route.

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